ERIC Document Resume | See Instruction Sheet | DATE OF RESUME 9/14/65 | DATE RECEIVED

A. PUBLICATION DATA

1. ERIC NUMBER ED001787
2. ORIGINATOR CONTROL NO(S). N.A.
3. IDENTIFICATION NO. CR 1124

DO NOT WRITE IN SPACE BELOW

MICROFILM COPY AVAILABLE YES ☒ NO ☐

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COPYRIGHT RELEASE FILED YES ☐ NO ☐

TYPE OF REPORT
- PROPOSAL ☐
- IN-PROGRESS ☐
- FINAL ☒
- FOLLOW-UP ☐

OTHER ERIC REFERENCES:

ERIC SATELLITE CODE

4. AUTHOR(S): Wrightstone, J. Wayne and others
5. TITLE OF DOCUMENT ABSTRACTED: Evaluation of the Higher Horizons Program for Underprivileged Children
6. PUBLICATION TITLE: N.A.
7. EDITOR(S): N.A.
8. PLACE OF ORIGIN ORG. Bureau of Educational Research, Board of ST. Education of the City CITY, STATE of New York, New York TELE. EXT. INST/LOC CODE
9. PUBLISHER OR SOURCE Bureau of Educational Research Board of Education, City of New York, N.Y

10. VOL.	11. PAGES	12. MO./YR.	13. TOTAL PP.
N.A.	N.A.	Dec. 64	298

B. INDEXING DATA

14. SUBJECT AREA
15. TYPE OF ENDEAVOR experimental study
16. INDEXING TERMS (6-12)

		teacher evaluations
evaluation techniques	teacher attitudes	testing
elementary schools	culturally deprived	student attitudes
secondary schools	student testing	student aspirations

17. ABSTRACT (MAX. 250 WORDS)

Two major areas evaluated were elementary schools and junior high schools. Tests and interviews were designed to analyze progress in aptitudes, achievement, and attitudes of the culturally deprived.

On the elementary level there was no significant change in the aptitude of pupils from the third to sixth grade shown by group I.Q. scores. Reading achievement was no higher for Higher Horizons pupils than non-Higher Horizons pupils, whereas arithmetic levels were better for the Higher Horizon pupils. There was no significant difference in school attitude or self-image concepts, while attendance and non-truancy rates were better among the Horizon group. The staff evaluation rated the program positively. The conclusions for junior high schools were generally the same as for the elementary schools. The problems, procedures, and conclusions were treated in extensive detail. Tests used in the evaluation accompany the text.

ERIC No.

18. SOURCE OF ABSTRACT

C. FUNDING DATA

19. SUPPORTING ORGANIZATION
20. DIVISION OR DEPT.
21. CONTRACT NO.

PROJECT NO.

22. TOTAL COST OF PROJECT
23. DURATION OR PROJECT

U.S. Department of Health, Education, and Welfare
Office of Education

5

RIC Form 1

ED001787

EVALUATION OF THE HIGHER HORIZONS PROGRAM FOR UNDERPRIVILEGED CHILDREN

COOPERATIVE RESEARCH PROJECT NO. 1124

J. WAYNE WRIGHTSTONE, GEORGE FORLANO
EDWARD FRANKEL, BARBARA LEWIS.
RICHARD TURNER, PHILIP BOLGER

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BUREAU OF EDUCATIONAL RESEARCH
BOARD OF EDUCATION OF THE CITY OF NEW YORK

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BOARD OF EDUCATION OF THE CITY OF NEW YORK

1964

The research reported herein was supported by the Cooperative Research Program of the Office of Education, U.S. Department of Health, Education and Welfare.

FOREWORD

The Higher Horizons Program was inaugurated in September 1959 and was eventually introduced into 52 elementary schools and 13 junior high schools in economically deprived neighborhoods. The Program was prompted in large measure by a pilot Demonstration Guidance Project. The original project involved Junior High School 43 in Manhattan and George Washington High School. Its success stimulated adaptations of its methods and procedures in other schools.

The major purpose of the Higher Horizons Program has been to develop techniques for the identification, motivation, enrichment and education of the culturally disadvantaged children and to perfect means for stimulating them and their families to pursue higher educational and vocational goals. In the original design of the project it had been hoped that the services provided to the Higher Horizons schools might be increased from year to year. Various budgetary and other factors prevented the realization of this objective. The Program, therefore, was not supported to the extent originally planned. This may account, in part, for the less dramatic results of the Higher Horizons Program as compared with the Demonstration Guidance Project.

The magnitude of the problem and comprehensive design of evaluation prompted an exploration for a grant-in-aid to supplement the resources of the Bureau of Educational Research. The Cooperative Research Program of the United States Office of Education provided funds to aid the evaluation for a period of three years.

The evaluation was conducted in schools which operated under serious handicaps. Some of the teachers were young and inexperienced. The mobility of teachers in schools in low socio-economic neighborhoods presented another problem. The transiency of children from school to school offered difficulty for the evaluators. These conditions are not unique to New York City, but are characteristic of all large metropolitan cities.

It will be clear to the reader, as it is to the research team, that many objectives in addition to those investigated might well merit study, provided funds and time were available. For example, a deeper study of the impact of cultural experiences on the pupils is desirable. The effect of the Higher Horizons Program on parents might be investigated in greater depth. A follow-up study of Higher Horizons children, at least through high school, might well prove fruitful.

ACKNOWLEDGMENTS

Acknowledgment is expressed to the Advisory Committee and its chairmen for their counsel and support. Dr. John J. Theobald, former Superintendent of Schools, was the first chairman. He was succeeded by Dr. John B. King, Deputy Superintendent of Schools.

In conducting the evaluation, the cooperation and talents of many individuals were enlisted. Dr. Samuel D. McClelland, Acting Director of the Bureau of Educational Research, made available to the research staff the facilities of the Bureau. During the initial stages of the evaluation, Mr. Daniel Schreiber, Coordinator of the Higher Horizons Program, and his assistant, Miss Ethel Flanagan, cooperated in providing information and establishing liaison with schools. Subsequently Mr. Jacob Landers as Coordinator of the Higher Horizons Program and Miss Carmela Mercurio were equally helpful.

The Women's Volunteers, supervised by Mrs. Frieda Winer, under the direction of Miss T. Margaret Jamer of the Office of School Volunteers provided valuable assistance in scoring tests and tabulating test scores.

Dr. Max Weiner, Brooklyn College, provided important statistical assistance in use of a computer in the analysis of data.

On the project staff, Mr. Richard Cumbo, Mr. Jacob Abramson, and Mrs. Jennie Corsaro Venezia contributed especially to the statistical analysis of the data. Mrs. Margaret Andreozzi contributed to the organization and coordination of details of preparing and typing the final report.

The generous cooperation of the principals, guidance counselors and other professional staff of the experimental and control elementary and junior high schools is acknowledged with appreciation.

Dr. George Forlano was Project Director from the inception of the Evaluation of the Higher Horizons Program.

July, 1964
Brooklyn, N.Y.

J. WAYNE WRIGHTSTONE
Principal Investigator

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PART I

INTRODUCTION

CHAPTER I

THE HIGHER HORIZONS PROGRAM

Purposes of the Program

The primary objective of the Higher Horizons Program is to help disadvantaged children in New York City by raising their educational, vocational and cultural aspirations. Although the ultimate goals of the Program are no different from those set forth for all children, it is in the procedures for achieving that this objective takes on special characteristics. Changed attitudes, new methods, better materials, and additional personnel are needed to compensate for deprivations of the disadvantaged child. In addition, there are required, at times, new approaches to old materials and methods, and new deployment of personnel. The objectives are not unique to the Higher Horizons Program; it is the emphases that differ. According to Landers,[1] the coordinator of the Program: "The specific goals to be emphasized in the Higher Horizons Program are as follows:

Guidance

1. To identify abilities, interests, and needs of children.
2. To raise levels of aspiration of children, and to stimulate them to attain levels commensurate with their ability.
3. To create for all children the aspiration to complete high school, and for those with appropriate ability, the aspiration to go on to higher education.
4. To carry on programs of intensive individual and group counseling which will:
   ____ assist each child in making and following appropriate educational and occupational plans.
   ____ provide for the early introduction of occupational information.
5. To carry on programs of education of parents in guidance objectives.
6. To assist with in-service training of teachers.
7. To develop new guidance tools, techniques, procedures, and materials to help realize these objectives.

Teacher Training

1. To train teachers in identification of ability, particularly academic ability.
2. To train teachers in methods of helping children to realize their potential, particularly in academic areas.
3. To help teachers to set goals for children which are realistic in terms of potential rather than in terms of past achievement.
4. To define the role of the classroom teacher in the total program to help the educationally disadvantaged.
5. To stimulate teacher participation in the total program.

---

[1] Landers, Jacob, Higher Horizons Progress Report, Board of Education of the City of New York, 1963, pp 11-13.

Cultural Experiences

1. To raise children's cultural sights by giving them experiences not usually provided by the home or community.
2. To help children see themselves as part of the cultural mainstream of our country.
3. To supply educational, occupational, and cultural experiences which will raise the aspirations of the children while simultaneously improving their self-image.
4. To provide a firm basis for other educational experiences, particularly those of a verbal nature.

Curriculum Enrichment and Adaptation

1. To enrich the curriculum in academic and cultural areas in order to discover and develop pupil potential.
2. To make such curriculum adaptations as may be necessary to develop the academic potential of pupils.
3. To utilize existing school facilities, such as libraries, in reaching these goals.

Remedial Services

To supply remedial services for children with good academic potential, particularly in reading but also in other academic areas.

Parent and Community Education

1. To help parents understand the value of the school in terms of their hopes for their children.
2. To give parents a better understanding of the community resources and educational opportunities available to them and to their children.
3. To encourage and assist parents in providing an atmosphere of encouragement and stimulation for their children.
4. To raise the levels of educational, vocational and cultural aspiration of parents for their children.
5. To enlist the assistance of community agencies in supplying necessary services, and to coordinate such services.
6. To develop new approaches which will encourage parents to cooperate with the school in raising the educational, vocational, and aspirational level of children.

Inspiration

1. To give to teachers and parents that faith in children, and children that faith in themselves, which alone makes progress possible.
2. To enable teachers, pupils, and parents to identify themselves with a successful enterprise of great importance.

Evaluation and Record-Keeping

1. To develop techniques for the identification and stimulation of the educationally disadvantaged.
2. To organize and maintain meaningful records.
3. To evaluate the success of the Higher Horizons Program."

Origin of the Higher Horizons Program

The Higher Horizons Program is an outgrowth of the Demonstration Guidance Project. This latter project, which ran from 1956 to 1962, had as its purpose the identification and stimulation of able students from low socio-economic background who were not being identified through the usual measurement procedures. The Project, which was carried out in one Manhattan junior high school, followed students from junior high school through graduation from high school. During the course of the Project many efforts were made to compensate for environmental limitations. These included larger guidance and counseling staffs, special instructional and remedial services, broader cultural experiences, increased contacts with parents, and clinical and financial assistance.

The success of the Demonstration Guidance Project led to recommendations that it be extended:

> "the expanded program should include like services to the elementary schools feeding the selected junior high schools in order to lessen the cumulative effect of insufficient motivation and stimulation and make it possible for each child to derive maximum benefit from a sound educational program. The program should extend its services to all children -- bright, average, and slow."[1]

The Program which began in September 1959, was called the Higher Horizons Program. It was intended to provide the kind of education that would enable disadvantaged children to compete with other children on an equal basis and, unlike its predecessor, the Demonstration Guidance Project, it was open to all disadvantaged pupils rather than just the more academically able.

The Program was predicated on the belief that improvement in a pupil can best be effected by direct influence upon the child, the teacher, and the parent. To this end, the child, the teacher, and the parent must be involved.

Differences Between Higher Horizons Program and Demonstration Guidance Project

To summarize the differences between the Demonstration Guidance Project and the Higher Horizons Program, Table 1 is presented on the following page.

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[1] Landers, Op. Cit., Page 3.

Table 1

Differences Between Higher Horizons and the Demonstration Guidance Project

	Higher Horizons Program	Demonstration Guidance Project
Begun	September 1959	December 1956
Initial Grades	3 (elem.), 7 (jr. h. s.)	7, 8, 9 (jr. h. s.)
Extension	one elementary and one secondary grade added each year	to h. s. in September 1957
Schools	52 elementary schools 13 jr. high schools 11 high schools	Jr. H. S. 43 Manhattan; George Washington H. S.
Target Population	all children	the academically able
Goal	better education and wider fields of choice for disadvantaged children	graduation with academic diploma, college admission
Method of Operation	decentralized operation	concentrated control
Present Status	64,075 pupils in grades 3 to 10	completed in June 1962
Estimated Per Capita Costs	Elem. $61 Jr. H. S. $61 SR. H. S. $70.	Elem. - no project Jr. H. S. - $80 Sr. H. S. - $250

Comparative data in Table 1 reveals several differences between the Higher Horizons and Demonstration Guidance Programs. The Higher Horizons Program was initially conducted on the elementary and junior high school level, whereas the Demonstration Guidance Project began in the junior high schools and terminated at the end of senior high school. At its inception, the Higher Horizons Program was designed to attack the problems of deprivation as early as possible by identifying and providing for the needs of these pupils beginning at the third grade in the elementary school. The Higher Horizons Program followed junior high school students for three years, whereas the Demonstration Guidance Program followed them for six years, through high school graduation. Table 1 also reveals that Higher Horizons attempts to reach all children at all ability levels, whereas the Demonstration Guidance Program was confined to the more academically able. Furthermore, the major goal of Demonstration Guidance Program was graduation from high school with an academic diploma or college admission, whereas that of Higher Horizons was "better education and wider fields of choice for disadvantaged children."

In addition, Table 1 indicates that the Higher Horizons Program was conducted in fifty-two elementary schools, thirteen junior high schools, and eleven high schools. Since the Program was introduced in the high schools in

September 1962, no concurrent evaluation was undertaken. The Demonstration Guidance Program was conducted in one junior high school and one senior high school.

The bulk of the money spent in the Demonstration Guidance Program was on the high school level, whereas that for Higher Horizons was on the elementary and junior high school levels. It should be noted that per capita allocation for the Higher Horizons Program are amounts over and above those previously allotted for the special services instituted in schools in socio-economically depressed areas. These special service schools received from $150 to $175 per pupil above the amount usually allocated to conventional schools. In effect, the Higher Horizons schools were receiving over $200 per pupil. Of this $200, approximately $61, represents the per capita cost of the Higher Horizons Program.

In general, the per capita cost of the Higher Horizons Program at the elementary and junior high school levels was approximately $20 or 25 per cent less than that of the Demonstration Guidance Program at the junior high school level. Furthermore, on a per capita student basis, more than three times as much money was spent on the Demonstration Guidance High School Project than is being currently expended on the Higher Horizons High School Program.

Organization of the Program

Another important difference was in the administration of the Program. Higher Horizons represents a decentralized operation, whereas the Demonstration Guidance Program was centrally controlled. The decentralization is in large part due to the heterogeneity of the New York City population and the extension of the Higher Horizons Program.

Every elementary school in the Higher Horizons Program receives an additional allotment of teachers. Until the current school year, the nature of their assignments was determined almost entirely by district and school needs. In district A, these program teachers were assigned to individual schools primarily as curriculum assistants and teacher trainers. In district B, they were organized in teams of teacher training specialists in such areas as reading, mathematics, science, and social studies, and visited schools on a scheduled basis. In district C, they were assigned to individual schools mainly to carry on programs of reading improvement. In district D, program teachers were assigned to individual schools, with the scope of their duties to be determined almost entirely by the principal. Other determinants of the use made of added personnel are such factors as the degree of building utilization, the nature and extent of existing services, staff turnover, and teacher aptitudes and attitudes. It is evident that the Higher Horizons Program was a decentralized operation until June, 1962.

All of these teachers spent a good part of their time with such activities as parent and community education, cultural activities, teacher training, curriculum improvement and enrichment, and remedial work. Yet, from school to school, there was a shift of emphasis, depending upon local conditions. Teacher assignments represented a varied pattern.

In September 1962, efforts were made to introduce a greater degree of structure in the use of program teachers, while allowing reasonable flexibility to the schools and districts. Most schools received three such teachers, two of them for academic stimulation and improvement, and one for cultural enrichment. The academic teachers function mainly in the area of language arts, while the other teacher works in the area of art or music, or both, and takes care of the trip program. Each of ten schools, one for each superintendent's district where the program is maintained, has in addition a teacher of science and a teacher of library.

All Higher Horizons program teachers in elementary schools are required to spend approximately half their time in the direct instruction of children. The remainder of the time may be devoted to activities similar to those already noted above.

Junior High School

The organizational situation in the junior high schools has been roughly parallel to that in the elementary schools. In previous years, principals were given a great deal of freedom in the use made of the assigned Higher Horizons program teachers. They were used mainly for remedial reading, teacher training, curriculum enrichment, cultural activities, and administration. Flexibility and decentralization were significant administrative characteristics.

In organizing for the 1962-1963 school year, principals were asked to use the additional teacher time allotment to organize smaller classes in reading, mathematics, and foreign languages. These suggestions have resulted in greater uniformity of structure and emphasis, as well as increased services to the academically able. However, since requests were in no sense mandatory, there is still great variety in the organizational patterns which have evolved.

Nature of Program[1]

"If we intend to raise the child's educational, vocational, or aspirational goals, we must first convince him that it is possible. Too often, the underprivileged child becomes aware at an early age of the low expectations which others have of him. His first school experiences with academic work are often frustrating and tend to reenforce his feeling of inadequacy. If he is a minority group member, the racial or national sterotypes to which he is exposed emphasize his inability to acquire the academic virtues. In his daily contacts with others, he finds constant reminders of how little is expected of him. To counteract these influences, a major effort must be made to raise his self-concept. This is a necessary preliminary to improvement in motivation and in achievement.

The teacher plays a key role in the total process. She must first believe in the child and in the program; she must be the first to catch the contagion of enthusiasm. Faced daily with the demands of a difficult situation, the teacher, often new and inexperienced, may tend to lose sight of the tremendous reservoir of potential that exists in all children. The Higher Horizons Program can succeed only if it stimulates the faith of teachers in pupils and provides them with the means to translate that faith into accomplishments.

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[1] Landers, J. Op. Cit. pp. 9 and 10.

Parents are equally important in any program designed to raise the levels of aspiration and of achievement of pupils. Mothers and fathers, inured to the harsh realities of a seemingly hostile world, are often prone to lower their expectations for their children. A major assault must be mounted against the apathy and discouragement so often rooted in bitter experience. A powerful ally in this effort is the desire of parents for more education, better jobs, and a better life for their children. It is our responsibility to convince them that these goals are possible and that they are mutually dependent. The parents must be persuaded to accept their share of responsibility in the total effort.

From the point of view of implementation, the Program has three major facets:

1. Application of the principle of compensatory education.
2. Differential utilization of services.
3. Spiritual and inspirational features."

The Schools, The Pupils, and The Teachers in The Study: Elementary School Level

The Schools in the Study

In 1959-1960, when Higher Horizons began, there were thirty-one elementary schools in the Program. In the next school year, 1960-1961, twenty-one elementary schools were added, bringing the total to fifty-two, where it has remained since. When the Program began in September, 1959, it included only third-grade pupils in the elementary school. For the next three school years, one grade was added each year, so that by September, 1962, there were third, fourth, fifth, and sixth grade pupils in the Program. As the student population increased so did the number of teachers and counselors. Table 2 indicates the growth for the four year period.

Table 2

Expansion of Elementary School Higher Horizons Services, 1959-1962

Year	Schools	Grades	Pupils	Program Teachers	Counselors
1959-1960	31	3	5,561	33	30
1960-1961	52	3,4	18,342	61	49
1961-1962	52	3, 4, 5	25,039	81	67
1962-1963	52	3, 4, 5, 6	33,757	168	87

From Table 2, it may be seen that the number of pupils participating in the Program increased about sixfold from 5,561 to 33,757. The number of program teachers and counselors combined increased about fourfold over the same period of time from 63 to 225.

Selection of Experimental Schools

For purposes of evaluating the Higher Horizons Program, a sample of eight schools was selected to represent the thirty-one original elementary schools. The criteria used for selecting the eight experimental schools were:

1. Mean I.Q. as measured by the Otis Quick Scoring Mental Ability Test, New Edition, Form AS, given city-wide in February 1960 at the third grade.
2. Mean reading comprehension grade equivalent as measured by the Metropolitan Reading Test, Primary II, Form S, given city-wide in April 1960 at the third grade.
3. Ethnic composition of the total population of each school as officially reported in the annual ethnic census of October 1959.
4. Identical or adjacent school districts.
5. Size of pupil population in each school.

Table 3 compares the eight selected experimental schools with the total original population of thirty-one Higher Horizons schools in terms of mean third grade Otis Alpha I.Q., the mean third grade reading comprehension grade equivalent, and the ethnic composition.

Table 3

Intelligence, Reading Comprehension, and Ethnic Composition of
The Thirty-One Higher Horizons Elementary Schools
And of the Eight Representative Schools
Serving as the Experimental Group

	Third Grade Population				Total School Populations Ethnic Composition			
	Otis Alpha I.Q.		Read. Grade Comp. Equiv.			Per Cent		
	N	Mean	N	Mean	No. Total	Puerto Rican	Negro	Other
31 Schools	5204	92.25	5262	3.38	35,772	16.75	71.94	11.30
8 Exp. Schools	1389	92.08	1390	3.34	9,877	22.02	65.30	12.67

As revealed in Table 3 the mean Otis Alpha I.Q.s and the mean reading comprehension grade equivalents of the eight experimental schools were almost the same as the mean scores for the entire group of thirty-one schools; the difference was 0.17 in I.Q. and 0.04 in grade equivalent.

With respect to ethnic composition, the differences were somewhat greater. The experimental group had slightly more "Puerto Rican", slightly less "Negro", and slightly more "Other" pupils than the total population and the twenty-three remaining schools. The selection was as representative as was possible.

Experimental and Control Schools

After selecting the experimental schools, control schools were chosen as a basis for comparison. These control schools matched individually used the same criteria as were employed for selecting the eight experimental Higher Horizons schools.

The experimental and control schools were paired as follows:

Experimental				Control		
School	Dist.	Boro.		School	Dist.	Boro.
a	10	M	with	b	12	M
c	9	M	with	d	10	M
e	12	M	with	f	11	M
g	11	M	with	h	13	M
i	48	Q	with	j	46	Q
k	48	Q	with	l	50	Q
m	50	Q	with	n	50	Q
o	46	Q	with	p	46	Q

Tables 4 and 5 present a comparison of the pupils of the eight experimental and the eight matched control schools with respect to the four matching criteria-Otis Alpha I.Q., reading comprehension grade equivalent, school population and ethnic groupings.

Table 4

Comparison of Eight Experimental Higher Horizons and Eight Control Schools on Matching Criteria

	Experimental		Control		Dif.		
	N	Mean	N	Mean	(E-C)	t	P[1]
Otis Alpha	1389	92.08	1197	92.34	-.26	0.63	NS
Reading Comp.	1390	3.34	1195	3.35	-.01	0.34	NS
Size of School Pop.	9877	1234.63	8838	1104.75	129.88	1.03	NS

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[1] Throughout this study the notation of NS indicates a difference that is not significant; levels of confidence of .05 and .01 were used to determine statistically significant differences.

Table 5

Comparison of the Ethnic Composition of the Eight Experimental and Eight Control Schools

Ethnic Grouping	Experimental N.	Experimental Per Cent	Control N.	Control Per Cent.	Chi Square	P
Puerto Rican	2175	22.02	1938	21.93		
Negro	6450	65.30	5869	66.41		
Other	1252	12.68	1031	11.66		
Total	9877	100%	8838	100%	4.75	NS

There were no statistically significant differences between the experimental and control schools with respect to mean Otis Alpha I.Q., mean reading comprehension grade equivalent, size of school population and ethnic composition.

A more complete picture of the elementary schools and their populations were provided by the additional data assembled. These data supplemented the matching criteria and also made for a more meaningful interpretation of the findings. Since this was a longitudinal study, the data were collected year by year from 1957 or 1958 to 1962. This made it possible to determine changes in the variables which impinged upon the Program and its functioning.

1. Special Service Classification

It was most significant that of the eight matched pairs of schools selected for this study, seven of the experimental and six of the controls were special service schools. Moreover, the seven experimental schools were in the more disadvantaged neighborhoods.

Special service schools are those with a high evidence of special needs based on the following criteria: reading age, I.Q., number of pupils receiving free lunch, pupil mobility, language handicap of pupils, and permanent census. The phrase is descriptive of the special services supplied to the schools. Six of the eight pairs were special service schools. In one pair both were non-special service and in the remaining pair, an experimental special service school was found to be paired with a non-special service control school.

2. School Utilization

The age of the experimental school buildings ranged from ten years to sixty-five, with an average of forty-three years. The control schools selected ranged in age from four years to sixty-four years with an average age of forty-six.

The per cent of school utilization was calculated from the school enrollment and the indicated capacity of building. Capacity is determined by the application of an approved formula which is based on the total number of useable rooms available in the building, the number of regular and special classes they accommodate, and their respective average class size. Table 6 presents per cents of utilization in the experimental and control schools.

Table 6

Per Cent Utilization of Eight Experimental and Control Schools for School Years September 1958 through 1962

Group	1958	Years 1959	1960	1961	1962	Average 1959-62
Experimental	100.3	115.2	107.6	99.9	89.4	102.8
Control	99.3	107.3	104.6	102.4	97.0	102.8
Diff. (E-C)	+1.0	+7.9	+3.0	-2.5	-7.6	0

Table 6 indicates that in 1958, the year before the start of the Program, the percentages of utilization were slightly higher in the experimental than in control schools, 100.3 and 99.3 respectively. In 1959, it was 7.9 per cent higher in the experimental than in control schools. However, from 1959 to 1962, both groups showed a continuous decline in per cent utilization.

By 1962, the per cent utilization was 7.6 per cent higher for the control schools. The average utilization percentages for 1959 to 1962 were identical in the two groups, 102.8 per cent.

3. School Populations and Class Size

Cogent factors in the operation of the Higher Horizons Program were size of school populations, the number of classes and the average class size. These data for the eight experimental and eight control schools are presented in Table 7.

Table 7

Total Population, Number of Classes and Average Class Size in Eight Experimental and Control Elementary Schools Grades One Through Six

Year		School Pop.	No. of Classes	Av. Class Size	Av. Class Size Diff. E-C
1958	Experimental	9344	348	26.85	
	Control	6345	225	28.20	- 1.35
1959	Experimental	8426	308	27.35	
	Control	7479	254	29.44	- 2.09
1960	Experimental	8082	294	27.49	
	Control	7219	250	28.88	- 1.39
1961	Experimental	7250	253	28.66	
	Control	7068	238	29.70	- 1.04
1962	Experimental	7204	249	28.93	
	Control	6516	225	28.96	- 0.03
Average 1959-62	Experimental			28.05	
	Control			29.25	- 1.20

As indicated in Table 7 the populations in the eight experimental schools from grades one through six, show a steady decline from 9,344 in 1958 to 7,204 in 1962. The control population was lowest in 1958, 6,345; highest in 1959, 7,479, and there was a continuous drop in population size from 1959 to 1962. The number of classes in the two groups followed the population trend patterns.

The most significant findings were the changes in average class size in the two groups from 1958 to 1962. Among the experimental schools the average class size increased each year from 26.85 in 1958 to 28.05 in 1962. With the control classes the average class size fluctuated.

A comparison of the average class size of the two groups also reveals a definite pattern; the difference between them became progressively smaller from

1959 to 1962 - 2.09 to 0.03 - the control classes being larger.

For the period of the study, 1959 to 1962, the experimental schools had a smaller average class size than the controls, 28.05 for the experimentals and 29.25 for the controls.

4. Ethnic Composition

Data dealing with the ethnic composition of the total populations in the eight pairs of experimental and control schools from 1958 to 1962 were also collected and studied. These findings are presented in Table 8.

Table 8

Ethnic Composition in Higher Horizons and Control Elementary Schools From 1958 to 1962 by Percentages

	Experimental - Percentages				Control - Percentages			
	Total Pop.	Puerto Rican	Negro	Other	Total Pop.	Puerto Rican	Negro	Other
1958	10,829	25.29	61.64	13.06	7,539	24.14	54.70	21.16
1959	9,877	22.02	65.30	12.67	8,800	20.16	64.06	15.33
1960	9,305	20.58	66.77	12.60	8,438	17.21	68.54	14.26
1961	8,520	18.64	67.62	13.74	8,255	18.00	68.46	13.54
1962	8,247	19.58	66.69	13.82	7,757	18.82	67.78	13.39
Average 1959-62	8987.2	20.26	66.55	13.19	8312.5	18.69	67.15	14.16

Throughout the four years of the study, 1959 to 1962, the ethnic composition of the two groups remained consistent; the averages for the three ethnic categories being approximately 20 per cent Puerto Rican, 67 percent Negro, and 13 per cent Other. The experimental schools averaged 1.5 per cent more Puerto Rican pupils, but .66 per cent less Negroes and 0.97 per cent of Other than the controls for the period of this study.

5. Promotion Rates

Promotion rates of the experimental and control groups were also compared. Promotion rate is computed as the number of children promoted divided by the number of children in the school. Table 9 presents the promotion rates in the experimental and control schools for the years 1958 to 1962.

Table 9

Promotion Rates by Percentages of Experimental and Control Pupils from 1958 to 1962 Grades One Through Six

Year	Group	School Register	No. Promoted	Per cent Promotion	Diff. (E-C)
1958	Experimental	8871	8172	92.12	
	Control	7210	6627	91.91	+ 0.21
1959	Experimental	8280	7788	94.05	
	Control	7247	6976	96.20	- 2.21
1960	Experimental	7831	7410	94.62	
	Control	7014	6739	96.07	- 1.45
1961	Experimental	7321	6892	94.14	
	Control	6910	6524	94.41	- 0.27
1962	Experimental	7075	6615	93.15	
	Control	5605	5308	94.70	- 1.20
1959-62	Experimental	30507	28705	94.09	
	Control	26776	25547	95.66	- 1.57

As Table 9 indicates, the promotion rate for the school year 1958 was slightly higher in the experimental schools, by 0.21 per cent. However, in the four subsequent years, 1959 to 1962, the control schools had slightly higher promotion rates ranging from a difference of 2.21 per cent to 0.27 per cent, the average being 1.57 per cent.

6. Pupil Transiency

Rates of pupil turnover in the experimental and control schools were compared for the period from 1958-59 to 1962-63.

To calculate percentage of transiency the number of admissions and discharges as well as the register contained in each of the eight period reports for the school year were collected. From these reports, transiency was computed using the following formula:[1]

$$\text{Transiency} = \frac{(\text{Admissions} + \text{Discharges} - \text{1st year enrollment in Sept.}) \times 8}{\text{Aggregate Register}}$$

The rates of pupil transiency in the eight pairs of experimental and control schools for the period 1958 to 1962 are summarized in Table 10.

Table 10

Pupil Transiency Rates in Experimental and Control Schools for 1958 to 1962

	1958	1959	1960	1961	1962	Average 1959-1960
Experimental	42.53	40.82	38.83	37.78	40.52	39.05
Control	41.91	47.69	42.73	46.48	50.78	46.80
Diff. (E-C)	+0.62	-6.87	-3.90	-8.72	-10.26	-7.75

Table 10 indicates that during the school year beginning September 1958, one year before the start of the Higher Horizons Program, pupil transiency was slightly higher in the experimental schools by 0.62 per cent. However, during the four years of the Program from September 1959 to June 1963, the transiency rates were consistently higher in control schools, on the average, 7.75 per cent.

A third factor considered was the professional staff. The specific data collected for this purpose were number of professionals per thousand pupils, teacher turnover, and percentages of regular and substitute teachers.

7. Professional Services

Table 11 presents data on the number of professionals per thousand pupils in the experimental and control schools for the period 1957 to 1962.

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[1] Pupil Transiency in Elementary and Junior High Schools - School Years 1959-60 Kasindorf, B.R. - Board of Education, City of New York, B.E.P.R.A.S. - Pub. No. 166, P. 2, March 1961.

Table 11

Comparison of Professionals Per Thousand Pupils In Eight Experimental and Eight Matched Control Schools Over a Six Year Period from 1957 to 1962

Year	Experimental	Control	Diff. (E-C)
1957	39.82	38.75	+ 1.07
1958	40.17	37.55	+ 2.62
1959	41.85	38.64	+ 3.21
1960	43.51	40.15	+ 3.36
1961	43.15	40.19	+ 2.96
1962	47.61	43.27	+ 4.34
Pre-Higher Horizons			
1957-1958	39.99	38.13	+ 1.86
1959-1962	43.91	40.49	+ 3.42

The number of professional personnel per thousand was consistently higher in the experimental than in the control schools every year from 1957 to 1962. During this same period, the difference between the two groups ranged from 1.07 in 1957 to 4.34 in 1962, always in favor of the experimental schools. For the two year period before the start of the Program, 1957 and 1958, the experimental schools had 1.86 more professionals per thousand pupils than the control. During the four years of the Program, 1959 to 1962, the advantage almost doubled, 3.42.

8. Teacher Turnover

The professional staff in a school is an important factor to be reckoned with in evaluating the effectiveness of an educational program. Therefore, it was deemed necessary to have data relating to teacher turnover in the eight pairs of experimental and control schools. Teacher turnover rates were calculated by using the number of teaching staff members in October, 1958 as the base. The number of accessions and separations as well as the number of teachers on leave from year to year were determined by comparing the names appearing on the school payroll in October of each year. The formula for calculating turnover rate is as follows:

$$\text{Per cent Turnover} = \frac{\text{No. of accessions + separation x 100}}{\text{average staff}}[1]$$

The per cent turnover rates for the staff in the eight experimental and eight control schools from 1957 to 1962 are shown in Table 12.

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[1] Teacher Turnover in Public Elementary and Secondary Schools, 1959-60 U.S. Dept. of Health, Education and Welfare, Office of Education, OE. 23002-60, pg. 7.

Table 12

Per Cent Staff Turnover in Eight Experimental
and Eight Control Schools for 1957 to 1962

Years	1957-58	1958-59	1959-60	1960-61	1961-62	1962-63	Averages 1957-1959	Averages 1959-1962
Experimental	25.62	37.70	31.32	39.80	42.26	36.89	31.22	37.42
Control	40.00	37.42	53.32	40.56	33.16	50.46	38.70	44.28
Diff. (E-C)	-14.38	+ 0.28	-22.00	-0.76	+9.10	-13.57	-7.48	-6.86

In general, the per cent of teacher turnover was higher in the control than in the experimental schools. From 1957 to 1958, the average was 7.48 per cent higher; and from 1959 to 1962, it was 6.86 per cent greater in the control than in the experimental schools. Turnover rates tended to increase from year to year in the experimental schools; the pattern in the control schools was more erratic.

9. Percentages of Regular Staff Members

The percentages of regular and substitute teachers in the experimental and control schools for 1958-59 to 1962-63 were compared. The summary of these findings is presented in Table 13.

Table 13

Percentages of Regular and Substitute Staff Members in
Experimental and Control Schools from 1958 to 1962

	Experimental				Control				
	Regular		Substitute		Regular		Substitute		
Year	N	Per Cent	N	Per cent	N	Per cent	N	Per cent	Reg. Diff. (E-C)
1958	399	81.76	89	18.24	255	80.70	61	19.30	+ 1.06
1959	387	81.30	89	18.70	278	78.53	76	21.47	+ 2.77
1960	370	79.91	93	20.09	261	72.70	98	27.30	+ 7.21
1961	352	83.61	69	16.39	263	74.29	91	25.71	+ 9.32
1962	335	77.73	96	22.27	249	69.94	107	30.06	+ 7.79
1959-62 (Av.)		80.63		19.37		73.86		26.14	+ 6.77

Table 13 shows that every year from 1958 to 1962, there was a higher percentage of regular teachers in the experimental than in control schools. In both groups of schools, there was a general trend towards a reduction in the percentages of regular teachers, however, the decline was faster in the control than the experimental schools.

Summary of Elementary School, Pupil and Teacher Data

These data provide a broad and comprehensive portrait of the experimental and control schools used in this study.

The experimental population consisted of the pupils in eight Higher Horizons schools whose third grade Otis Alpha I.Q. and reading comprehension scores as well as the ethnic composition, geographic location and size of school population were representative of the thirty-one schools in the Program in September 1959. The eight control schools were drawn from non-Higher Horizons schools and were matched on a one to one basis with the eight experimental schools. The additional data revealed that the two groups of experimental and control schools were also very similar in many other respects; the age and per cent utilization of the school buildings, the stability of the ethnic composition, and special service designations.

On the other hand, for the period of the study, 1959 to 1962, the Higher Horizons experimental schools had somewhat smaller average class size, lower rates of pupil and teacher transiency, larger percentages of regular teachers, and a greater number of professionals per thousand pupils particularly project teachers and guidance counselor.

The Schools, The Pupils, and the Teachers in the Study: Junior High School Level

The Schools in the Study

Since the inception of the Higher Horizons Program in 1959, the number of junior high schools has remained constant at thirteen. The Program began in grade seven, and each year, another grade was added so that by school year 1961-62 grades seven, eight, and nine had been included. The introduction of so vast a program required time for planning, organization, and teacher training. The budgetary situation was such as to render difficult, if not impossible, appropriations for children in all grades in the selected schools. It was the general feeling that growth should be gradual, in order to facilitate the evaluation of progress as a preliminary to further expansion. Thus, both financial and educational reasons joined to indicate the inclusion of one grade at a time.

Table 14 presents this increase in the grades, including annual student enrollment.

Table 14

Expansion of Junior High School Higher
Horizons Services, 1959-1962

Year	Schools	Grades	Students	Program Teachers	Counselors
1959-1960	13	7	6,769	25	26
1960-1961	13	7, 8	13,423	32	29
1961-1962	13	7,8, 9	19,111	46	50
1962-1963	13	7,8, 9	19,338	52	50

Table 14 reveals that although the number of students enrolled in the Program increased three-fold from 6, 769 in 1959-60 to 19,338 in 1962-63, the combined number of program teachers and counselors doubled from 51 to 102 over the same period of time.

Selection of Experimental and Control Schools

The criteria employed in initially selecting and matching the experimental and control groups were ethnic composition and size of school population. Ten Higher Horizons junior high schools were matched as a group with ten non-Higher Horizons control schools. Although there were thirteen Higher Horizons junior high schools, three were not included in the study since two were not coeducational and the third participated in another experimental type program.

The ethnic composition of the student population in the ten experimental Higher Horizons and the ten control non-Higher Horizons junior high schools for 1959-60 are presented in Table 15.

Table 15

Ethnic Composition of Higher Horizons and Control Junior High Schools

School	Dist.	Boro.	Pop.	P. Rican	Negro	Other
			Higher Horizons Schools	Percentages		
A	10	M	1259	70.3	26.4	3.3
**B	11	M	1677	36.3	52.9	10.8
C	10	M	1530	8.2	91.4	0.4
**D	13	M	1605	2.0	98.0	—
**E	12	M	1538	1.9	98.1	—
F	17	X	1545	46.8	48.7	4.5
G	32	K	1353	3.5	95.6	0.8
H	32	K	1349	10.2	53.6	36.2
I	27	K	1689	4.1	95.1	0.7
*J	48	K	1025	4.9	29.5	65.7
K	50	Q	849	3.1	95.5	1.4
*L	46	Q	1346	6.8	10.9	82.2
*M	50	Q	1857	2.5	77.5	20.0
			Control Schools			
Q	11	M	1740	1.2	97.6	1.2
R	10	M	1871	63.4	28.3	8.2
S	13	M	1275	11.0	73.3	15.7
T	17	X	1645	44.2	47.1	8.7
U	32	K	1561	23.6	63.6	12.7
*V	34	K	997	9.8	60.4	29.8
W	34	K	1604	9.2	27.3	63.5
X	34	K	1218	24.4	58.7	16.9
*Y	46	Q	1313	2.3	7.2	90.5
*Z	45	Q	412	2.7	79.3	18.0

* These were the only schools not classified as Special Service in 1959-60.
** These are the three schools excluded from the matching.

The ten control schools were selected as comparable on the basis of similarity of ethnic distribution, size of the school and general I.Q. level.

Table 16 summarizes the average scores on these variables for the experimental and control groups.

Table 16

Averages on Selected Variables for the Ten Experimental and Ten Control Schools for the Year 1959-60

	Experimental	Control
School Size	1380	1364
Ethnic Composition		
Per cent Puerto Rican	15.96	22.20
Per cent Negro	63.82	52.13
Per cent Other	20.22	25.67
Mean Otis I.Q.	90.04	90.18

Table 16 reveals that the two groups were about the same in average school size and average Otis I.Q. score.

The experimental group contained 6.2 per cent less Puerto Rican, 5.6 per cent less 'Other' and 11.7 per cent more Negro students than the control schools.

In the studies concerned with gains in I.Q., reading and arithmetic, the ten experimental and ten control schools were used. However, in other studies, such as aspirational levels and interpeer acceptance, five pairs of schools were employed. For example, the latter five pairs of experimental and control schools were matched on size of school population, I. Q. and ethnic composition as of the first year of the Program, 1959-60.

These data are summarized in Table 17.

Table 17

Equation Data for Five Pairs of Experimental and Control Junior High Schools for 1959-60

	Experimental	Control
Average Population	1539	1569
Ethnic Composition		
Per cent Puerto Rican	23.6	26.8
Per cent Negro	55.6	51.5
Per cent Other	20.8	21.7
Mean Otis I.Q.	86.98	89.28

As indicated in Table 17, the average school populations in the two groups are about the same. The mean Otis I.Q. of the experimental students was 2.30 points lower than that of the controls. The differences in ethnic percentages between the groups ranged from 0.9 per cent Other to 4.1 per cent Negro. These differences were regarded as slight and not critical for the purposes of this study.

Additional data were assembled for the junior high school population. These data served to supplement the initial selection information. The data were collected for the period, 1958 to 1962:

1. Special Service Classification

In 1959-60, all but three of the thirteen Higher Horizons schools were designated as special service schools; the following year two of these schools were made special service. Since 1960-61, all but School L has been in the special service classification.

Among the ten control schools, seven were special service in 1959-60; two more were added in 1960-61. All but one, School Y, has been a special service school for three of the four years of the study.

2. School Utilization

The utilization of these schools was calculated from enrollment and computed capacity of the building. Table 18 presents the percentages of utilization in the experimental and control schools.

Table 18

Per cent Utilization of Experimental and Control Schools for School years 1958 through 1962

Group	Years 1958	1959	1960	1961	1962
Experimental	82.0	92.0	99.9	98.0	99.3
Control	91.0	99.7	100.4	88.0	99.9
Diff. (E-C)	-9.0	-7.7	-0.5	+10.0	-0.6

Table 18 shows that the experimental schools approached 100 per cent utilization over the five years but were never overutilized. The controls also tended to approach full utilization.

3. Class Size

A comparison of the average class size in the thirteen Higher Horizons and the ten Control junior high schools is presented in Table 19.

Table 19

Average Class Size in Higher Horizons and Control Junior High Schools

	1958-59	1959-60	1960-61	1961-62
Experimental	27,78	29.10	28.50	28.70
Control	28.61	29.71	30.29	30.31
Diff. (E-C)	-0.83	-0.61	-1.79	-1.61

Table 19 shows that during the years from 1958-59 to 1961-62, the average class size in the control schools increased steadily. The experimental schools, in contrast, displayed less variations. For each year, the average class size in the experimental group was smaller than that in the control group.

4. Ethnic Composition

Table 20 presents the ethnic distribution, by percentages, in the ten combined experimental and thirteen combined control junior high schools for the years 1958 to 1962.

Table 20

Ethnic Distribution by Percentages for Ten Higher Horizons and Ten Control Junior High Schools

Year	Experimental				Control			
	Pop. N	Percentages P.Rican	Negro	Other	Pop. N	Percentages P.Rican	Negro	Other
1958	13,011	15.06	62.28	22.66	13,359	22.24	50.15	27.61
1959	13,802	15.96	63.82	20.22	13,636	22.21	52.13	25.67
1960	14,678	17.36	65.25	17.39	13,932	24.40	55.89	21.71
1961	14,579	16.65	67.95	15.40	13,427	24.77	55.55	19.68
1962	14,305	15.66	68.92	15.42	13,495	25.46	57.27	17.27

Table 20 indicates that the ethnic distribution within the two groups changed very little from 1958 to 1962, Throughout those years the student population in the Higher Horizons junior high schools averaged about 65 per cent

Negro, 15 per cent Puerto Rican and about 20 per cent "Other". The control schools were also fairly constant, although the Negro percentages were somewhat smaller, about 55 per cent, the Puerto Rican somewhat larger, 25 per cent and the "Other" averaged about 20 per cent.

5. Promotion Rates

Table 21 summarizes, for the school years 1958-59 through 1962-63 inclusive, the average rate of promotion for all students in Higher Horizons and comparable control schools.

Table 21

Average Rate of Promotion for Higher Horizons and Control Junior High Schools

	1958-59	1959-60	1960-61	1961-62	1962-63
Experimental	90.14%	91.33%	91.98%	93.65%	93.65%
Comparable Control	92.66%	93.63%	94.14%	91.48%	90.86%
Diff. (E-C)	-2.52%	-2.30%	-2.16%	+2.17%	+2.79%

Table 21 indicates that the promotion rates in the experimental schools tended to increase from 1958 to 1962. The control school had their highest rate in 1960 and declined in the following two years. For the first two years of the Program 1959 and 1960 the controls showed higher rates; in the third and fourth years, 1961 and 1962, the experimental schools were higher, 2.17 per cent and 2.79 per cent respectfully.

6. Pupil Transiency

Table 22 indicates rates of student mobility in the experimental and control schools. For each of the school years1958-59 through 1961-62, the rate of student mobility was lower in Higher Horizons schools than in the comparable control schools. The greatest difference in rates between these two groups, 5.40 per cent, occurred in 1960-61.

Table 22

Average Rate of Student Mobility for Higher Horizons and Control Junior High Schools

	1958-59	1959-60	1960-61	1961-62
Experimental	37.79%	39.34%	36.97%	39.27%
Control	40.85%	44.31%	42.37%	44.28%
Diff. (E-C)	-3.06%	-4.97%	-5.40%	-5.01%

7. Professional Services

Another important factor considered was the professional staff.

The specific data collected for this purpose were: number of professionals per thousand pupils, teacher turnover, and percentages of regular and substitute teachers.

Table 23 presents data on the number of professionals per thousand students in the experimental and control schools for the years 1958-63.

Table 23

Average Number of Professionals Per Thousand Students in Higher Horizons and Control Junior High Schools

	1958-59	1959-60	1960-61	1961-62	1962-63
Experimental	56.99	57.61	59.91	60.58	64.35
Comparable Control	54.38	53.73	55.20	56.97	57.89
Diff. (E-C)	+2.61	+3.88	+4.71	+3.61	+6.46

Table 23 indicates that there was a slightly greater average number of professionals per thousand students in the experimental as compared to the control group every year from 1958-59 to 1962-63. This favorable balance increased from 3.88 per cent in 1959-60, the first year of the Program, to 6.46 per cent during 1962-63, the fourth year of the Program.

8. Teacher Turnover

Table 24 presents data on percentages of teacher turnover for the experimental and control schools from 1958 through 1962.

Table 24

Per Cent Staff Turnover in Experimental and Control Junior High Schools

Group	1958-59	1959-60	1960-61	1961-62
Experimental	55.08	46.00	43.00	43.61
Control	46.55	41.55	42.11	47.89
Diff. (E-C)	+8.53	+4.45	+ .89	-4.28

As Table 24 indicates, the per cent staff turnover, in 1958-59, was 8.53 per cent higher in the experimental schools. By 1961-62, the control schools showed higher turnover rates. This was the only year in which the experimentals showed lower rates than the controls.

9. Percentages of Regular Staff Members

In Table 25 are presented the percentages of regular and substitute teachers in the experimental and control schools.

Table 25

Percentages of Regular and Substitute Staff Members in Experimental and Control Schools from 1958 to 1962

	Experimental		Control		Reg. Diff.
	Reg.	Sub.	Reg.	Sub.	(E-C)
1958	66.85	33.15	64.44	35.56	+2.41
1959	64.38	35.62	62.89	37.11	+1.49
1960	61.61	38.39	61.44	38.56	+0.17
1961	68.46	31.54	66.89	33.11	+1.57
1962	64.54	35.46	63.44	36.56	+1.10

Table 25 shows that the percentages of regular teachers were slightly higher in the experimental schools every year from 1958 to 1962. During the four years of the Program, 1959 to 1962, this difference was never greater than 1.57 per cent.

Summary of School, Student and Teacher Data in Junior High Schools

The basic experimental population was drawn from students in ten of the thirteen Higher Horizons junior high schools. The control population consisted of students in ten non-Higher Horizons junior high schools which were comparable to the experimental schools in size, ethnic distribution, and I.Q. in 1959-60. All but one school in each group of ten was a special service school for at least three of the four years of the study. Additional data revealed that over the period of the Program, 1959 to 1962, the two groups were stable in ethnic composition. Rates of promotion as well as teacher turnover were about the same for the two groups.

On the other hand, the experimental schools had slightly smaller average class sizes, somewhat lower student transiency, slightly more professional services and larger percentages of regular staff members than the control schools.

CHAPTER II

RELATED RESEARCH

"The number one problem faced by urban teachers today is how to offer culturally deprived youth an education that meets their needs. In 1950, about one child out of ten attending public schools in the nation's fourteen largest cities was culturally disadvantaged. In 1960, the proportion had risen to one of three. Some authorities believe that by 1970 it may be one out of two." [1]

Action is being urged in many quarters. The Council of Chief State School Officers, in 1962, adopted the following resolution which is illustrative of the thinking of educational organizations throughout the country:

> The Council believes efforts now being directed toward the improvement of educational opportunities for the culturally deprived of the nation are especially commendable, and that much more attention and more funds are required in the areas where these underprivileged groups reside. We recommend that special educational programs be provided for the culturally deprived regardless of whether they live in rural slums or urban slums. [2]

Reaction has been quick and decisive. All over the country, in cities large and small, programs resembling, to a greater or lesser degree, New York's Higher Horizons, have been effected to combat the ills of cultural disadvantage. Although these programs differ in scope and approach, these are four factors that seem to be common to all. Dorsey Baynham points them out: [3]

1. Awareness that the culturally deprived student is usually poor in communication skills and that this inability causes failure in other subjects.
2. Willingness to experiment with a broad range of teaching materials such as film strips, records, and television, and with administrative approaches such as team teaching and flexible programming.
3. Strenuous efforts to search out and use community help, such as various health and welfare services or private philanthropic organizations and business and industry.
4. Preparation both in teaching skills and attitude of teachers involved in the great cities programs and, happily the concern, devotion, and enthusiasm which ordinarily result from that involvement.

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[1] Frederick Shaw, "Educating Culturally Deprived Youth in Urban Centers." Phi Delta Kappan XLV: 91-97, No.2 November, 1963.

[2] Resolution adopted by Council of Chief State School Officers, 1962 quoted in Educational Research Service, Circular No. 2, School Programs for the Disadvantaged, National Education Association, 1963.

[3] Dorsey Baynham, "The Great Cities Projects." NEA Journal 52: 17-19, No.4, April, 1963.

These four factors must be common to all programs because disadvantaged children are similar -- no matter where found. So, therefore, are the methods and techniques used in teaching them. The following lengthy quotation from the NEA circular already cited will make this clear.

> Perhaps the most obvious need in working successfully with underprivileged children is a group of teachers specially trained and oriented — perhaps dedicated — to the job they must do. As a number of writers have pointed out, many teachers bring to their work a personal background far removed from that of the children they will teach. Often they must overcome a tendency to reject these youngsters who seem dull, uninterested, and physically unattractive. In-service training programs are, therefore, essential to the success of a program for the disadvantaged.
>
> Involved in in-service training activities, both as learners and instructors, are members of the pupil personnel staff. Counselors new to the special program may need special training for working with children with limited backgrounds, while those with experience in this area can offer valuable advice and suggestions. School psychologists, health personnel, and visiting teachers also play an important part in these special projects. In some school systems, the personnel of community health and social work agencies are called in for consultation and assistance.
>
> Culturally deprived children almost always suffer handicaps in reading and language. Some of this is due to the fact that the reading texts and other materials used in the regular school program relate to experiences that are completely foreign to a child who has always lived in slum surroundings. To overcome this handicap, school systems have developed special teaching materials and instructional aids. To present them to the children, the schools have made wide use of grouping techniques and, when possible and necessary, individual tutoring.
>
> The offerings of special education departments are invaluable in adapting school programs to the needs of all pupils. They are especially significant in the case of the disadvantaged child who may be physically or mentally handicapped.
>
> Much of the battle to win the interest and cooperation of the underprivileged child can be won in the homes. Parents who have come to recognize the value of education and the part they can play in helping their children get the most from schooling can become partners with the teachers and other school workers in the rehabilitation of the children.
>
> Practically all of the special programs include plans for field trips or "cultural tours" whereby the underprivileged children can be taken on regular visits to such places as museums, zoos, theaters, parks, and colleges. Other widely-used techniques are team teaching, ungraded primary programs, work-study arrangements, and reduced pupil-teacher ratios. Also, many of the writers report a special effort to provide new or modernized school plants in the disadvantaged areas.
>
> For children whose home conditions make study impossible, several school systems have set up study centers. These centers may be located in the school or in a convenient recreation facility.

A few summer programs for culturally and economically handicapped youngsters have been organized. These may be purely recreational, including camping experiences, or they may offer a combination of recreational and educational opportunities.

Some of the experimental projects have been focused on children of preschool age. They represent attempts to discover how much of the cultural and psychological blight can be prevented before these youngsters are old enough to react strongly to depressed conditions.[1]

In addition to providing a general description of programs for the disadvantaged, the NEA circular cited presents descriptions of specific special projects in forty-two local school districts. Quotations and paraphrasings of the circular will comprise the remainder of this chapter.

Pasadena, California, has a Higher Horizons program which includes elementary, junior high school and senior high school students. Using ability grouping, lower class registers, and remedial reading, the program produced such results as above average progress in reading ability and improved discipline.

San Francisco, California, uses a four-pronged approach: equalization of educational opportunity; compensatory education; in-service courses; and school-community improvement program.

Washington, D.C., has inaugurated three special programs for children from underprivileged homes. The Macfarland-Roosevelt Guidance Project is a six-year program designed to give young people the intensive personal attention they must have if their talents are to be discovered and fully developed. The Language Arts program is to improve oral and written language facility and comprehension of culturally deprived children in grades K-3. The Urban Service Corps is intended to match a child who has a need with a volunteer who can supply that need.

Baltimore, Maryland, with the assistance of a grant from the Ford Foundation instituted the three year program HELP. This project is designed to enrich the lives of culturally disadvantaged four-and-five-year-old, out-of-school children.

Detroit, Michigan, has a five part program for disadvantaged children. Part one is concerned with teacher orientation. Part two involves the improved use of appropriate instructional equipment and materials and the development of educational materials and methods adapted to the needs of the child with limited background. Part three involves modification of organizational patterns within the school for more flexible and efficient programming to meet individual needs. Part four concerns the additional staff assigned to each school to help classroom teachers and school administrators coordinate home-community, agency, and school resources, and to increase remedial teaching and referral capacity. Part five concerns public and private agency involvement and the development of cooperative school-home-community relationships.

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[1] Educational Research Service, Circular No. 2, School Programs for the Disadvantaged, National Education Association, 1963.

St. Louis, Missouri, has a program, the Banneker Project, which has as its purpose to raisethe academic achievement of pupils through motivation rather than altered curriculums or instructional techniques. Those concerned with the project believe that IQ scores as they are currently obtained are not truly indicative of either the capacity for or the liklihood of academic achievement of pupils, and that sufficiently strong and appropriate motivation rather than drastic alterations in current instructional techniques and curricular offerings can change academic apathy to energetic school activity and achievement. To this end, the program has many facets calculated to change attitudes of parents, students, staff and community. These include parent education, interviews, and special pupil activities to raise their aspirational levels.

Buffalo, New York, began a program for disadvantaged pupils during the school year 1960-61. Through an enriched school program of teaching, coaching, teacher assistance, and community interaction, as well as assistance from community agencies and community involvement by a visting school social worker and other agencies, a vigorous attack was made on social inertia, low degree of interest in achievement and progress, and uninspired motivational patterns. Many signs of improvement in child growth, aspiration, achievement, and favorable attitudes have become evident.

Yonkers, New York, is one of sixteen school systems participating in Project ABLE, currently being conducted throughout New York State under the joint sponsorship and support of the State Education Department and the participating school districts. Its main purpose is to seek out those children who have ability and talent but who, for a variety of reasons, are not producing at the level of their potential ability. It stems from a growing concern on the part of citizens and educators alike over the fact that much of the talent and ability of our young people is undiscovered or, if discovered, is not developed to its fullest extent. The aim of the program, therefore, is to give to each child an equal opportunity to develop whatever talent and ability he may possess to the highest level of which he is capable.

Emphasis of the Yonkers program is on developing reading skills and on language improvement. Featured in the language improvement plans are special units dealing with subjects familiar to the children such as fairy tales, literature, myths, and legends. In focusing on means of expressing oneself, the program has made use of art, music, drama, writing, and rhythm. Guidance classes have given the children an opportunity to discuss and learn to understand their own feelings and to build an awareness of their relationships to others. The departments of physical education, health, art, music, and other special areas have coordinated their efforts with those of the classroom teachers.

Cincinnati, Ohio, has developed several programs for the disadvantaged. One of the more interesting ones is the Talent Development Project. Six elementary schools, chosen on the basis of their location in a changing or culturally underprivileged community, are participating in a five-year project sponsored by the Center for School Experimentation of the Ohio State University. The purpose of the project is to explore what can be done to develop potentialities for achievement among children who may presently be achieving at less than their capacity. The project deals with three aspects of talent development among children — a stronger sense of personal worth, a greatly enriched program, and greater access to the larger community. Each school staff selected the aspect of the problem they wished to explore.

Philadelphia, Pennsylvania, began its Great Cities School Improvement Project in 1960. Seven elementary schools and one junior high school, all heavily attended by children of limited backgrounds are involved. The fundamental purposes of the project are to raise achievement levels, raise aspirational levels, discover talent and abilities, and awaken community responsibility through fostering closer ties between home and school. The method of achieving these goals is twofold: a wide range community program and an intensive, enriched school program. Progress made has been encouraging. Good results have been noted in pupil achievement, faculty morale, inservice education, and closer coordination of the schools and the communities they serve.

In addition to the cities reported on above, there are others which have definite programs for the disadvantaged, and many others which, while having no formal program, do adapt various aspects of the curriculum to the needs of these children.

Furthermore, many agencies outside the school have been investigating the problems of the disadvantaged and propounding their own solutions. For example, one such study,[1] recently published, has a full chapter denoted to "Education for Action"— a design for change in the schools of Central Harlem.

It will be noted that in few instances were results of the programs reported. The reason should be clear; such programs take time to implement and more time to evaluate. The Demonstration Guidance Program, discussed at some length in Chapter I of this report, is a notable exception. As more and more reports such as this and the Higher Horizons report appear in the literature, the methods and materials for teaching the disadvantaged should become increasingly effective.

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[1] Chapter 12 of Youth in the Ghetto. Harlem Youth Opportunities Unlimited, Inc., New York, 1964.

CHAPTER III

THE SCOPE OF THE STUDY

The Higher Horizons Program is the most extensive project ever undertaken in the area of education for disadvantaged children. It has provided increased guidance services, cultural experiences, community education, and inspiration for thousands of children and their parents. Several hundred specialized personnel have been added to the staffs of the project schools. These include psychologists, guidance counselors, remedial teachers, and librarians. For these personnel, plus additional materials and services, the cost during a typical school year came to approximately $3,800,000.

This expenditure of time, money, and personnel, insufficient as it would seem to be, gives rise to several questions:

Does a planned program of identification, motivation, and cultural enrichment develop pupil potential any more effectively than the conventional instructional program?

To what extent, if any, does the use of a variety of methods and techniques, including teacher and counselor observations and ratings, identify more of the potentially able students among the deprived pupil groups than are now identified by the usual standardized tests of academic aptitude and achievement?

To what extent does parent and community participation in the experimental program result in raising the level of aspiration of educational and vocational plans of their children?

What lessons have been learned that will make the continuation of the Higher Horizons Program more effective? What information may be passed on to other cities in which similar programs are in operation or being contemplated?

It was to provide answers to these questions that the present study was undertaken. And the word "study" is deceptive. Actually, not one, but a series of studies had to be made. The problem had so many facets that to have treated it as a single unit would have been impossible. There were too many grades involved, too many subjects, and too many kinds of needed data.

For these reasons, then, as each problem was isolated it was stated in the form of a question.

In the interest of clarity, the remainder of this chapter will consist of a list of these questions In them is found the purpose of this study. They will be presented in two sections, Elementary School and Junior High School

ELEMENTARY SCHOOLS

1. At the end of three school years -- grades 3 to 6 -- will the experimental group show greater gains in I.Q. than the control group?

2. At the end of sixteen school months -- grades 3 to 4 -- will the experimental group show greater gains in reading comprehension than they might be expected to show in that length of time?

3. At the end of three school years -- grades 3 to 6 -- will retarded readers in the experimental program show greater gains in reading comprehension than their control counterparts?

4. At the end of three school years -- grades 3 to 6 -- will pupils in the experimental group show greater gains in reading comprehension than pupils in the control group?

5. At the end of sixteen school months -- grades 3 to 4 -- will the experimental group show greater gains in arithmetic achievement than they might be expected to show in that length of time?

6. At the end of eighteen school months -- grades 4 to 6 -- will pupils in the experimental group show greater gains in arithmetic achievement than their control counterparts?

7. Do pupils in the experimental group show better classroom behavior than pupils in comparable non-Higher Horizons schools at the third and at the sixth grade levels?

8. At the end of one school year -- grade 5 -- will pupils in the experimental group evidence better social, school, and personal attitudes than their control counterparts?

9. Do pupils in the experimental group exhibit better social, school, and personal attitudes than their control counterparts at the third and at the sixth grade levels?

10. At the end of three school years -- grades 3 to 6 -- will pupils in the experimental group show more positive self-concepts and ideal-concepts than pupils in the control groups?

11. During the five year period from 1958-59 to 1962-63, will lower rates of truancy and suspension be observed among experimental pupils than among control pupils?

12. During the six year period from 1957-58 to 1962-63, will pupils in the control group evidence higher rates of attendance than their control counterparts?

13. What was the reaction of the elementary school principals to the Higher Horizons program?

14. What was the reaction of the elementary school teachers to the Higher Horizons program?

JUNIOR HIGH SCHOOL

1. At the end of two school years -- grades 6 to 8 -- will the experimental group show greater gains in I.Q. than the control group?

2. Will teacher estimates of student potential be better predictors of eighth grade achievement than standardized test results?

3. Will teacher estimates of student potential be better predictors of tenth grade achievement than standardized test results?

4. At the end of two school years -- grades 7 to 9 -- will pupils in the experimental group show greater gains in reading comprehension than pupils in the control group?

5. At the end of sixteen school months -- grades 7 to 8 -- will the experimental group show greater gains in reading comprehension than they might be expected to show in that length of time?

6. At the end of two school years -- grades 7 to 8 -- will pupils in the experimental group show greater gains in arithmetic achievement than their control counterparts?

7. At the end of sixteen school months -- grades 7 to 8 -- will the experimental group show greater gains in arithmetic achievement than they might be expected to show in that length of time?

8. During the school year 1962-63, will pupils in the experimental group evidence better classroom behavior than their control counterparts?

9. During the school year 1962-63, when report card ratings are used as the criterion of performance, will pupils in the experimental group evidence better classroom behavior than their control counterparts?

10. During the school year 1962-63, when the specially designed "Behavior Rating Scale" is used as the criterion of performance,

will pupils in the experimental group evidence better classroom behavior than their control counterparts?

11. During the school year 1962-63, will pupils in the experimental group evidence more favorable attitudes toward school and school work than their control counterparts?

12. During a period of six school months — grades 7 and 9 — will pupils in the experimental group exhibit a greater degree of peer acceptance than pupils in the control group?

13. At the end of three school years -- grades 7 to 9 -- will experimental pupils and their parents evidence a higher level of educational-vocational aspiration than their control counterparts?

14. At the end of two school years — grades 7 to 8 — will pupils in the experimental group evidence a higher educational- vocational aspiration level than pupils in the control group?

15. During the five year period from 1958-59 to 1962-63, will lower rates of truancy and suspension be observed among experimental pupils than among control pupils?

16. During the six year period from 1957-58 to 1962-63, will pupils in the experimental group evidence higher rates of attendance than their control counterparts?

17. What was the reaction of the junior high school principals to the Higher Horizons program?

18. What was the reaction of the junior high school teachers to the Higher Horizons program?

PART II

EVALUATION OF THE HIGHER HORIZONS PROGRAM IN THE ELEMENTARY SCHOOLS

EVALUATION IN THE ELEMENTARY SCHOOLS

At the elementary school level, evaluation efforts were directed towards assessing the effects of the Program on pupil functioning in scholastic aptitude and achievement as well as in social development. Growth in academic aptitude and achievement were determined from measurements on standardized tests of intelligence, reading and arithmetic. Changes in social development were assessed from pupil and teacher ratings of classroom behavior, attitude and adjustment towards school, self-image, school attendance, and truancy and suspension rates.

The evaluation of these aspects of the Program are presented as a series of separate reports. Each report includes a statement of the specific problem being studied, the design, the findings, the conclusions and a summary of the study. Chapter IV presents the study of scholastic aptitude in terms of I.Q. measurements. Chapter V includes the investigations concerned with reading comprehension and arithmetic ability. Chapter VI is concerned with the attitudinal and aspirational reactions of these pupils as revealed by studies of their classroom behavior, attitude and adjustment towards schools, self-image, school attendance, and truancy and suspension rates. Finally, Chapter VII is devoted to the evaluation of the Program by the principals and the professional staff of the participating Higher Horizons elementary schools.

CHAPTER IV

SCHOLASTIC APTITUDE

STUDY OF INTELLIGENCE QUOTIENTS OF HIGHER HORIZONS AND CONTROL PUPILS FROM THIRD TO SIXTH GRADE

Problem

The purpose of this study was to determine what effect, if any, the Higher Horizons Program had on the intelligence quotients of the participating pupils between the third and sixth grades.

The question being asked is:

> "Do pupils in Higher Horizons schools as compared to pupils in comparable non-Higher Horizons schools show greater gains in I.Q. between the third and sixth grade?"

The assumption made was that improvement in intelligence quotients would be due to the Higher Horizons Program. The present study is a longitudinal investigation of I.Q. year by year from the school year 1959-60 when the pupils were in the third grade to 1962-63 when the same pupils were sixth graders.

Design

Population

Two partially overlapping populations were selected for this longitudinal study. One consisted of pupils in the eight pairs of experimental and control schools for whom there were third grade Otis Alpha and sixth grade Otis Beta I.Q.s. The Otis Alpha was the result of citywide testing of third grade pupils in February 1960; the Otis Beta was also based on citywide testing of sixth grade pupils in October 1962. The pupils selected for this population had been in the same school for both testings.

The second population was composed of pupils in five of the eight pairs of schools described above. Each of the pupils in this population had five recorded I.Q.s as the results of testings in the same school: Otis Alpha I.Q. in the third grade, Otis Alpha again in the fourth grade, California Non-Language I.Q. and Language I.Q. in the fifth grade and Otis Beta I.Q. in the sixth grade. Since the California Test was administered only to pupils in the five pairs of schools, the other three pairs could not be included in this population.

The two selected sample populations were first analyzed to determine their representativeness with respect to the total third grade experimental and control populations in the eight pairs of schools.

The mean Otis Alpha I.Q. of the selected population in the eight pairs of schools and that of the total populations from which they were drawn were compared for significant differences. The results of this analysis appears in Table 26.

Table 26

Comparison of Differences in Otis Alpha I.Q.s Between Total Populations and Selected Third Grade Experimental and Control Populations in Eight Pairs of Schools

	Total Population			Selected Population			Diff.		
	N	Mean	S.D.	N	Mean	S.D.	(Tot-Sel.)	t	P
Exp.	1117	92.99	12.26	687	94.07	12.92	-1.08	1.77	NS
Control	954	92.99	12.36	591	94.21	12.47	-1.22	1.88	NS

Table 26 indicates that the mean Otis Alpha I.Q.s of the selected experimental and control populations were not significantly different from that of their respective total populations. The selected experimental population of 687 pupils is 62 per cent of the total experimental population; the selected control population of 591 also constitutes 62 per cent of its total population.

The mean Otis Alpha I.Q.s of the selected populations in the five pairs of schools were also compared with that of the total populations of the eight pairs of schools. Again there were no significant differences in Otis Alpha I.Q.s between the total populations in the eight pairs of schools and the selected experimental and control groups in the five pairs of schools. The 359 pupils in the selected experimental population represent 32 per cent of the total experimental population and the 271 selected pupils in the five control schools constituted 26 per cent of its total population.

Instruments

The I.Q. scores were derived from the following standardized tests:

1. Otis Quick Scoring Mental Ability Test, New Edition, Alpha, Form AS, administered citywide to third grade pupils in February 1960 and again the following year to the fourth grade in eight experimental and eight matched control schools in April 1961.

2. The California Test of Mental Maturity, Elementary S-Form, given to fifth grade pupils in five pairs of experimental and control schools in May 1962.

3. The Otis Quick Scoring Mental Ability Test, New Edition, Beta, Form EM, administered citywide to sixth grade pupils in October 1962.

Procedure

The third grade Otis Alpha and sixth grade Otis Beta I.Q. data for the pupils in the eight pairs of schools were analyzed by comparing the total experimental and control groups as well as each sex in the experimental group with its control counterpart for significant differences. This was followed by a more rigorous analysis in which the two groups were equated on third grade I.Q. by matched pairs and compared for significant differences on the sixth grade I.Q. scores.

The experimental and control pupils in the five pairs of schools who had five recorded I.Q.s were compared on mean scores of each of these testings. The experimental and control groups were equated on the third grade Otis Score by the matched pair technique and compared for the significance of the differences on each of the other four I.Q. scores.

A more intensive analysis was undertaken which examined differences between groups of equated pupils in each of the eight pairs of experimental and control schools.

Results

1. Comparison of Third Grade Otis Alpha and Sixth Grade Otis Beta I.Q.s in Eight Pairs of Schools

The long range effects of the Higher Horizons Program on I.Q. were investigated by comparing the Otis Alpha I.Q. taken in the third grade in 1959-60 with the Otis Beta I.Q. taken by the same pupils in the sixth grade in 1962-63. Comparisons were made separately of the boys, of the girls, and the combined groups of experimental and control pupils.

a. Total Selected Population

The comparison of the Otis Alpha and Otis Beta I.Q. scores for the boys, the girls and the total experimental and control populations in the eight pairs of schools is presented in Table 27.

Table 27

Comparison of Mean Otis Alpha and Otis Beta I.Q.s of Pupils in Eight Pairs of Experimental and Control Schools

	Experimental			Control			Diff.		
	N	Mean	S.D.	N	Mean	S.D.	(E-C)	t	P
Otis Alpha									
Boys	317	93.78	13.04	264	94.15	12.50	-0.37	0.35	NS
Girls	370	94.32	12.81	327	94.25	12.44	+0.07	0.07	NS
Total	687	94.07	12.92	592	94.21	12.47	-0.14	0.20	NS
Otis Beta									
Boys	317	91.86	15.92	264	93.48	15.97	-1.62	1.22	NS
Girls	370	94.86	15.41	327	94.32	14.84	+0.54	0.47	NS
Total	687	93.47	15.72	591	93.95	15.36	-0.48	0.55	NS

Table 27 reveals no statistically significant differences in Otis I.Q.s at the third grade between the boys, the girls, or the total experimental and control populations. The mean Otis Alpha I.Q. of the total experimental group was 94.07 and that of the control 94.21.

At the sixth grade the differences between the two groups on the Otis Beta testing were also not significant; 93.47 for the experimental and 93.95 for the control. Again the boys as well as the girls in the two groups failed to show differences that were significant.

b. Equated Groups of Matched Pairs

In a further analysis, groups of pupils equated on the Otis Alpha I.Q. by the matched pair technique were compared for significant differences on Otis Beta I.Q.s. The matching was done by sex and within pairs of schools. Since the standard error of measurement of a score on the Otis Alpha Test for this population was four I.Q. points, this was the maximum difference allowed in the individual matching of pupils.

The results of equating boys and girls separately in the two groups on Otis Alpha I.Q.s are given in Table 28.

Table 28

Equation of Matched Pairs of Boys, Girls, and Total Groups in Eight Pairs of Schools on Third Grade Otis Alpha I.Q.s

	Pairs	Experimental		Control		Diff.		
	N	Mean	S.D.	Mean	S.D.	(E-C)	t	P
Boys	234	93.09	11.32	93.32	11.47	-0.23	0.22	NS
Girls	264	93.64	11.46	93.81	11.46	-0.17	0.17	NS
Total	498	93.38	11.41	93.58	11.46	-0.20	0.28	NS

Table 28 indicates that the matched pairs of boys, girls, and the combined experimental and control populations were not significantly different in I.Q.s as the result of matching on the Otis Alpha test. The mean I.Q. of the experimental group was 93.38 whereas that of the control was 93.58.

The two equated groups were now compared on Otis Beta I.Q.s. Table 29 indicates no significant differences in the Otis Beta I.Q.s of the boys, girls, and the total experimental and control populations.

Table 29

Comparison of Mean Sixth Grade Otis Beta I.Q.s of Matched Pairs of Boys, Girls and Total Experimental and Control Groups

	Pairs N	Experimental Mean	Experimental S.D.	Control Mean	Control S.D.	Diff. (E-C)	t	P
Boys	234	91.57	14.64	92.80	16.17	-1.23	1.23	NS
Girls	264	94.78	14.85	95.10	14.25	-0.32	0.34	NS
Total	498	93.27	14.85	94.02	15.22	-0.75	0.93	NS

As shown in Tables 28 and 29, the two groups maintained about the same I.Q. levels on the two testings. The mean Otis Beta I.Q. of the total experimental group was 93.27 as compared to 93.38 for the Otis Alpha. For the control group, the mean Otis Beta I.Q. was 94.02 and the mean Otis Alpha was 93.58.

2. Comparison of Five I.Q.s of Pupils in Five Pairs of Schools

The effects of the Higher Horizons Program on I.Q. score year by year from 1959-60 to 1962-63 were also investigated. This part of the study involved five of the eight pairs of schools in which the pupils had five recorded I.Q.s; third grade Otis Alpha, fourth grade Otis Alpha, fifth grade California Non-Language and Language, and sixth grade Otis Beta.

In this analysis, the two groups were equated on third grade Otis Alpha I.Q.s by the matched pair technique and compared for significant differences on each of the four other I.Q. scores. There were 237 pairs of experimental and control pupils selected by sex and within pairs of schools that could be matched on third grade I.Q. score. The equation data as well as the comparison of mean scores on the four other testings are presented by total group and then by boys and girls separately. These are presented in Tables 30, 31 and 32 respectively.

a. Total Number of Equated Pairs

The results of the analysis of the equated pairs are given in Table 30.

Table 30

Mean I.Q.s of 237 Pairs of Pupils Equated on Third Grade Otis Alpha and Compared on Four Subsequent Tests of Mental Ability

Grade	Test	Experimental Mean	Experimental S.D.	Control Mean	Control S.D.	Diff. (E-C)	t	P
Third	Otis Alpha	91.54	9.75	91.69	10.33	-.15	.16	NS
Fourth	Otis Alpha	91.03	10.44	90.77	10.76	+.26	.38	NS
Fifth	Calif. Non-Lang.	98.48	16.41	99.54	16.88	-1.06	.81	NS
Fifth	Calif. Lang.	97.37	14.28	95.03	17.27	+2.34	1.96	.05
Sixth	Otis Beta	92.08	13.24	89.38	13.53	+2.70	2.78	.01

From Table 30, it is evident that the experimental and control groups were equated to within .15 I.Q, points on the third grade Otis Alpha test.

The experimental group made significantly higher scores than the control group on the fifth grade California Language and the sixth grade Otis Beta tests - 2.34 and 2.70 I.Q. points respectively. The I.Q. differences between the two groups on fourth grade Otis Alpha and fifth grade California Non-Language, however, were not statistically significant.

b. Equated Pairs of Boys

The 110 pairs of boys equated on third grade Otis I.Q. were compared for significant differences on their four subsequent I.Q.s. These results are given in Table 31.

Table 31

I.Q.s of 110 Pairs of Experimental and Control Boys Equated on Third Grade Otis Alpha and Compared on Subsequent Tests of Mental Ability

Grade	Test	Experimental Mean	Experimental S.D.	Control Mean	Control S.D.	Diff. (E-C)	t	P
Third	Otis Alpha	91.06	10.76	91.50	10.75	-0.44	0	NS
Fourth	Otis Alpha	91.01	11.61	90.62	11.03	+0.39	0.37	NS
Fifth	Calif.Non-Lang.	101.65	16.46	101.92	17.18	-0.27	0.14	NS
Fifth	Calif. Lang.	96.78	13.26	92.70	18.37	+4.08	1.96	.05
Sixth	Otis Beta	90.08	12.77	87.22	15.02	+2.86	2.46	.05

Table 31 reveals that as the result of matching, the boys were equated within 0.44 I.Q. points on the third grade Otis Alpha test; the experimental group had a score of 91.06 and the controls 91.50.

With respect to the four other I.Q. tests, the boys in these matched groups showed the same pattern of I.Q. differences as did the total group. The experimental boys scored higher than the controls on the California Language and Otis Beta, 4.08 and 2.86 I.Q. points respectively. The fourth grade Otis Alpha and the fifth grade California Non-Language test results did not discriminate between the two groups.

c. Equated Pairs of Girls

The 127 pairs of matched girls in the two groups equated on third grade Otis Alpha were also compared on the four other tests. These results are presented in Table 32.

Table 32

I.Q.s of 127 Pairs of Experimental and Control Girls Equated on Third Grade Otis Alpha and Compared on Other Tests of Mental Ability

Grade	Test	Experimental Mean	Experimental S.D.	Control Mean	Control S.D.	Diff. (E-C)	t	P
Third	Otis Alpha	91.87	9.61	91.86	9.89	+0.01	0	NS
Fourth	Otis Alpha	91.06	10.87	90.91	10.44	+0.15	0.16	NS
Fifth	Calif.Non-Lang.	95.74	15.82	97.47	16.40	-1.73	0.97	NS
Fifth	Calif. Lang.	97.88	15.10	97.05	14.91	+0.83	0.50	NS
Sixth	Otis Beta	93.81	13.41	91.26	11.71	+2.55	1.80	NS

As can be seen from Table 32, the girls in the two groups were almost perfectly equated on the Otis Alpha I.Q. - 91.87 for the experimental and 91.86 for the controls. There were no significant differences between the experimental and control girls on the four subsequent tests of mental ability.

3. Differences Between Groups of Equated Pupils in Each of Eight Pairs of Experimental and Control Schools

The analyses of the data for the combined eight pairs of schools and the combined five pairs of schools yielded different results. For the eight pairs of schools, equated on Otis Alpha, the mean Otis Beta I.Q.s of the total experimental and control groups were not significantly different as indicated by Tables 28 and 29. However, in five of these paired schools, the mean Otis Beta of the total experimental group was significantly higher than that of the total control group as indicated by Table 30. In addition, the analysis by sex indicated that the boys in the two groups were significantly different on the California Language and Otis Beta test scores only, the girls however showed no significant difference on any of the tests.

In view of these findings, the data were analyzed more intensively by separate pairs of schools. The results of the comparison of separate pairs of schools equated on Otis Alpha I.Q.s are presented in Table 33.

Table 33

Equation of Eight Pairs of Experimental and Control Schools on Third Grade Otis Alpha Test

Pair	N	Schools	Experimental Mean	Experimental S.D.	Control Mean	Control S.D.	Diff. (E-C)	t	P
I	32	a & b	91.25	9.97	91.47	9.75	-0.22	.09	NS
II	37	c & d	85.16	9.29	85.14	9.47	+0.02	.01	NS
III	73	e & f	89.52	8.44	89.44	8.65	+0.08	.06	NS
IV	122	g & h	91.17	9.61	91.33	9.53	-0.16	0.14	NS
V	46	i & j	97.98	10.59	97.83	9.92	+0.15	0.07	NS
VI	30	k & l	94.33	10.01	94.20	9.36	+0.13	0.05	NS
VII	76	m & n	100.63	13.07	100.88	13.18	-0.25	0.12	NS
VIII	82	o & p	93.27	10.49	93.95	10.90	-0.68	0.41	NS
TOTAL	498		93.38	11.41	93.58	11.46	-0.20	0.28	NS

Table 33 indicates that each of the eight pairs of schools was not significantly different in Otis Alpha I.Q. as the result of matching by individual pairs of experimental and control pupils.

The equated pairs of schools were then compared separately for significant differences on sixth grade Otis Beta I.Q.s. The results of this analysis are presented in Table 34.

Table 34

Comparison of Mean Otis Beta I.Q.s at the Sixth Grade for Each of Eight Pairs of Equated Experimental and Control Schools

Pair	N	Schools	Experimental Mean	Experimental S.D.	Control Mean	Control S.D.	Diff. (E-C)	t	P
I*	32	a & b	93.34	12.14	88.69	11.33	+4.65	1.72	NS
II*	37	c & d	88.27	11.05	82.68	11.06	+5.59	2.48	.01
III*	73	e & f	89.81	12.14	88.11	11.34	+1.70	0.98	NS
IV	122	g & h	91.97	14.56	94.16	13.08	-2.19	1.55	NS
V*	46	i & j	101.17	14.23	101.41	14.15	-0.24	0.11	NS
VI	30	k & l	88.74	12.21	99.30	11.57	-10.56	4.87	.01
VII	76	m & n	99.95	18.00	102.64	17.11	-2.69	1.56	NS
VIII*	82	o & p	90.35	13.41	89.62	16.02	+0.73	0.43	NS
TOTAL	498		93.27	14.85	94.02	15.22	-0.75	0.93	NS

* These schools were used in the study of the five I.Q.s

The summary in Table 34 shows that in each of four pairs, the experimental school had higher Otis Beta I.Q.s than its control counterpart. However, the differences were significant for only one pair, II c & d. In the remaining four pairs, the control school scored higher on the Otis Beta and again the differences were statistically significant in only one pair of schools, this time, VI k & l. These data are consistent with the results for the total of the eight pairs of schools which showed no significant differences in mean Otis Beta I.Q. between the experimental and control groups.

When attention was focused on the findings related to the five pairs of schools it was found that it included four pairs, in which the experimental Otis Beta I.Q. was higher than that of control. The difference, however, was significant in only one pair - II c & d. In the remaining pair, the control I.Q. was higher but not significantly so. However, when the data for these five pairs of schools were combined, the differences between the two groups were statistically significant. The analyses by separate pairs of schools revealed the differences among these pairs of schools. As the sampling increased from five to eight pairs of schools, the differences were cancelled out showing no statistically significant results between the experimental and control groups.

Probably the most significant finding in this investigation was the relative stability of the third and sixth grade I.Q. scores of these groups of pupils. The mean Otis Alpha I.Q. in the third grade and the mean Otis Beta I.Q. in the sixth grade were not significantly different. This consistency of mean I.Q. score held for both the boys and the girls in the experimental and control schools.

These data are at variance with the findings of other studies of scores on intelligence tests of ethnically disadvantaged groups which report a decline in I.Q. as these pupils go up the educational ladder.[1] A recent study of the academic achievement of pupils in Central Harlem revealed a decrease in median I.Q. score from the third to the sixth grade.[2]

It must be emphasized that the third and sixth grade population in this latter study consisted of two entirely different groups of pupils both of which were tested in the same year. The present study, on the other hand, analyzed the third and sixth grade I.Q. scores of the same pupils. They represented the stable part of the school populations; numerically about 50% of the pupils originally in the third grade in 1959-60 were in the sixth grade in the same schools in 1962-63. The high annual rate of pupil transiency in these schools is responsible for the large turnover between the third and sixth grades.

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[1] Goldberg, Miriam, "Schools in Depressed Areas," in A. Harry Passow (Ed.) Education In Depressed Areas, Bureau of Publications, Teachers College, Columbia University, 1963, 82-83.

[2] Youth in The Ghetto, Harlem Youth Opportunities Unlimited, Inc. New York, 1964, 177-179.

These findings focus attention on the frequently overlooked fact that there are two groups of pupils in these school populations, transients and non-transients. When these two populations are combined, the I.Q. scores at the sixth grade are below that on the third grade tests. The non-transient or stable population in the eight pairs of schools however, did not exhibit this pattern; their I.Q.s held constant. Stability and I.Q. seem to be characteristic of the non-transient pupils and depreciation in I.Q. scores may be a function of transiency. This frequently observed decline in I.Q. of disadvantaged school population may be a reflection of the highly transient nature of the population rather than a characteristic of the entire group. Further study of the I.Q. scores of the disadvantaged in terms of the transient and non-transient pupils in these populations is suggested.

Conclusions

The conclusions which may be drawn from this study is that pupils in the Higher Horizons Program do not show greater gains in I.Q. score between the third and the sixth grade than do pupils in comparable non-Higher Horizons schools.

Summary

This longitudinal study attempted to determine the effects of the Higher Horizons Program on the I.Q. scores of participating pupils from the third to the sixth grade. The I.Q. data were obtained from standardized tests of mental ability administered to the same pupils in the same schools between 1959-60 and 1962-63, the first four years of the Higher Horizons Program. The Otis Alpha test was given citywide to the third grade in 1959-60 and again one year later to pupils in eight pairs of experimental and control schools; the California Test of Mental Maturity was taken by fifth graders in five of these eight pairs of schools in 1961-62 and the Otis Beta was given during the 1962-63 citywide testing of the sixth grade pupils.

Two populations were analyzed; one was composed of the pupils in the eight pairs of schools for whom both the third grade 1959-60 Otis Alpha and the 1962-63 Otis Beta I.Q. scores were available. The other population consisted of pupils in the five of the eight pairs of schools with five recorded I.Q. scores based on the annual testings from 1959-60 to 1962-63.

The principal findings were:

In the eight pairs of schools, no significant differences were found between the boys, the girls and the total experimental and control groups either on the third grade Otis Alpha or the sixth grade Otis Beta I.Q. scores.

When pupils from these groups were equated on third grade Otis Alpha I.Q. by matched pairs and compared on sixth grade I.Q. scores, again no significant differences were found.

In the five pairs of schools, pupils equated on third grade I.Q. by matched pairs were not significantly different on fourth grade Otis Alpha and fifth grade California Non-Language test. An analysis by sex, however, showed that the experimental boys scored significantly higher than the control boys on the fifth grade California Language and the sixth grade Otis Beta tests. Among the girls, there were no statistically significant differences on any of the four subsequent tests.

In the analysis of the differences between groups of equated pupils in each of the eight pairs of schools, it was found that in each of four pairs, the experimental school scored higher on the Otis Beta than its control counterpart. The differences were significant only for one pair. In the remaining four pairs, the control school scored higher and again the differences were significant for only one pair.

From an overall view of these findings there is no definite indication in the groups studied at this time of any association between participation in the Higher Horizons Program and an increase in I. Q. score from the third to the sixth grade.

CHAPTER V

READING AND ARITHMETIC ACHIEVEMENT

A. COMPARISON OF ACTUAL AND EXPECTED GROWTH IN READING COMPREHENSION OF PUPILS IN HIGHER HORIZONS ELEMENTARY SCHOOLS

Problem

The purpose of this investigation was to determine the extent to which the Higher Horizons Program influenced reading comprehension gains of participating pupils.

The basic question being asked is "To what extent, if any, is the Higher Horizons Program effective in improving the reading comprehension as measured by standardized tests over and beyond the growth that might be expected?"

Design

Population

The pupils included in this study were the boys and girls attending the eight representative Higher Horizons schools who entered the third grade in September 1959 and for whom there were three reading comprehension scores. This sample consisted of 414 boys and 441 girls, a total of 855 pupils.

Instruments

The three reading comprehension grade equivalent scores were based on the following testings:

1. The November 4, 1959 administration of the Metropolitan Reading Test, Primary II,Form S, to all third grade pupils in the Higher Horizons schools.

2. The April 28, 1960 citywide administration of the same test to all third grade pupils, six months later.

3. The May 16, 1961 administration of the Metropolitan Reading Test, Elementary, Forms S, to all the pupils when they were in the fourth grade. It was assumed that the primary and elementary forms of the Metropolitan Reading Tests were adequately articulated.[1] The time interval between the first and second tests rounded off to the nearest month was six school months and between the second and third, eleven school months and between the first and third, 16 school months.

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[1] Durost, W.N. "Manual for Interpreting Metropolitan Achievement Tests," Harcourt, Brace & World, Inc. New York, 1962.

Procedure

Actual growth in reading comprehension for six school months was computed from the differences in grade equivalent scores between November 1959 and April 1960 testings. Growth in eleven school months was calculated from the difference on April 1960 and May 1961 grade equivalents scores and growth for sixteen school months was the difference between the November 4, 1959 and the May 16, 1961 scores.

The expected mean reading comprehension grade equivalents, calculated from national norms are based on the average performance of third grade pupils who are 9 years and 2 months old and whose mean I.Q. is 100. The mean chronological age of the 855 third grade pupils in this study was 8 years and 11 months, three months younger than the national norm. Thus the adjusted reading comprehension norm for the group being studied in April 1960 was 3.6. Six months previously, in November 1959, the chronological age of these third grade pupils was 8 years and 5 months. The reading norm for this age is 3.1. In May 1961, the mean chronological age of the group was 10 years and the adjusted grade equivalent norm was 4.6. Thus three norms were established which adjusted for the difference in age between third grade children nationally and those in New York City elementary schools.

Since national norms are based on a school population with a mean I.Q. of 100, and the I.Q. of this population was less than 100, further adjustments were made in the reading comprehension grade equivalents norms. There were two Otis I.Q. scores available for these pupils, one from the citywide test in February 1960 and the other from the administration of the same test one year later in May 1961. The mean Otis I.Q. for the 855 pupils in this study on the February 1960 testing was 93.49 and on the May 1961 testing 91.92. It was decided to use the average of these two Otis Alpha I.Q.s, 92.71 to adjust the three reading comprehension norms of November 1959, April 1960, and May 1961. To arrive at the adjusted norms, the norms of 3.1, 3.6, and 4.6 were each multiplied by 92.71, the average Otis·I.Q. The three norms, when adjusted for I.Q. differences were 2.87 for November 1959, 3.34 for April 1960 and 4.26 for May 1961. These adjusted grade equivalents represent the scores which the pupils in this study would be expected to achieve on each of the three testing dates.

Actual gains and expected gains of the entire group in reading comprehension between the testing periods were determined and compared for each of the three test intervals: 6 months, 11 school months and 16 school months.

Results

Total Group

1. Actual Scores and Gains

The actual mean reading comprehension grade equivalents of the boys of the girls, and of the total group on the three administrations of the Metropolitan Reading Tests are presented in Table 1. The actual gains made over the six month, the 11 month, and 16 month periods are also given in Table 35.

Table 35

Actual Mean Reading Comprehension Grade Equivalents and Gains of Pupils in Higher Horizons Schools on Three Testings

		Nov. 1959		April 1960		May 1961		Gains in school months		
Groups	N	Mean	S.D.	Mean	S.D.	Mean	S.D.	6 mo.	11 mo.	16 mo.
Boys	414	2.61	0.77	3.31	0.93	4.00	1.14	.70	.69	1.39
Girls	441	2.85	0.88	3.60	0.97	4.41	1.22	.75	.81	1.56
Total	855	2.73	0.84	3.46	0.96	4.21	1.20	.73	.75	1.48

As can be seen in Table 35, the mean reading comprehension grade equivalent of the total group increased from 2.73 in November 1959 to 3.46 in April 1960, a gain of 7.3 months in six school months. In 1961, the mean grade score was 4.21 representing a gain of 7.5 months over the 1960 grade score for the 11 month interval. The total mean gain for the 16 month period from 1959 to 1961 was 14.8 months.

In November 1959, the mean grade score of the girls was 2.85, or 0.24 points higher than the mean 2.61 grade score of the boys. Between November 1959 and April 1960, the girls made slightly higher gains than the boys. This pattern was repeated in the next 11 month school period. Over the sixteen school months, the boys gained 13.9 and the girls 15.6 months in grade score.

2. Actual Scores and Expected Scores

The actual mean grade equivalents in reading comprehension, the expected grade equivalents and the differences are given in Table 36.

Table 36

Differences Between Actual and Expected Mean Grade Score for Reading Comprehension of Pupils on the Three Testing Dates

	Nov. 1959	April 1960	May 1961
Actual Grade Score	2.73	3.46	4.21
Expected Grade Score	2.87	3.34	4.26
Difference	-0.14	+0.12	-0.05

As indicated in Table 36, the mean reading comprehension grade level in November 1959 was 0.14 school years or 1.4 school months below the expected level. Six months later, the reading level was 0.12 school years or 1.2 months above expectancy, and by May 1961, it was 0.5 months below the expected level.

3. Actual gains and Expected Gains

Table 37 presents the actual gains as compared to the expected gains in reading comprehension.

Table 37

Differences Between Actual and Expected Gains in Reading Comprehension of Pupils in Higher Horizons Program for Three Testing Intervals

	6 months	11 months	16 months
Actual	7.3	7.5	14.8
Expected	4.7	9.2	13.9
Difference	+2.6	-1.7	+ .9

During the six month period between November 1959 and April 1960, the pupils in the Higher Horizons elementary schools gained 2.6 months in reading comprehension above expectation, the actual gain being 7.3 months and the expected gain, 4.7 months. In the next eleven months, the expected gain exceeded the actual gain by 1.7 school months. However, over the sixteen month period from November 1959 to May 1961, the actual gain exceeded the expected gain by 0.9 of a school month. The actual gains in the first six months were about equal to that made in the subsequent eleven school month period.

Conclusions

The conclusion which may be drawn from this study is that these elementary school pupils in the Higher Horizons Program over a sixteen month period tended to show gains in reading comprehension which were slightly above the expected gains.

Summary

The purpose of the study was to determine the effects of the Higher Horizons Program on the reading comprehension of elementary school pupils as measured by the Metropolitan Reading Tests. The mean reading comprehension grade equivalents of 855 pupils in eight representative schools in the Program for the November 1959, April 1960, and May 1961 testing were compared with adjusted norms. A comparison was made of actual gains and the expected gains for the 6 month period between the 1959 and 1960 tests, the eleven month period between the 1960 and the 1961 tests, and the sixteen month period between the 1959 and 1961 tests were compared.

The major findings may be summarized as follows:

The actual gains in reading comprehension made in the first six months of this study was 7.3 months, in the next eleven school months the gain was 7.5, a total of 14.8 for sixteen school months. These actual gains were compared with the expected gains for this population. The expected gains for the first six months was 4.7 school months, for the next eleven school months 9.2, a total gain of 13.9 months for sixteen school months. During the first six months, the actual gain exceeded the expected gain by 2.6 months, in the subsequent eleventh month period, the expected gain was greater than the actual gain by 1.7 months. The actual gain however for the sixteen months period was greater than the expected gain by 0.9 or, almost a month of reading comprehension.

From the findings, it may be concluded that over the sixteen month period of this study, the pupils in the eight Higher Horizons schools made gains in reading comprehension which were slightly greater than the expected gains.

B. COMPARISON OF READING COMPREHENSION OF HIGHER HORIZONS AND CONTROL PUPILS

Problem

This study was concerned with the growth in reading comprehension from the third to the sixth grade of pupils in Higher Horizons schools as compared to pupils in comparable non-Higher Horizons schools.

The question answered by this investigation was:

> "Do pupils make greater gains in reading comprehension from the third to the sixth grade in the Higher Horizons schools than pupils in comparable non-Higher Horizons schools?"

Design

Population

The populations employed in this study consisted of pupils attending the eight experimental Higher Horizons and eight matched control non-Higher Horizons schools. These pupils were third graders in 1959-60 and sixth graders in the same school in 1962-63. Only those pupils with third grade Otis Alpha and reading comprehension scores and sixth grade reading scores as the result of testings in the same school were included in the analysis.

Instrument

The following three standardized tests provided the data used in this study:

1. The Otis Quick Scoring Mental Ability Test, Alpha, New Edition, Form AS, administered citywide to third grade pupils February 1960.
2. The Metropolitan Reading Achievement Test, Primary II, Form S, given citywide to the same group of pupils April, 1960. The scores on this test were expressed as grade equivalents.
3. The Metropolitan Reading Achievement Test, Intermediate, Form B, given citywide to sixth grade pupils October, 1962. The scores on this test were also expressed as grade equivalents.

Procedure

Third grade I.Q. and reading comprehension scores were transcribed from school records to data sheets by the teachers in the eight pairs of experimental and control schools. The sixth grade reading scores were obtained from the report sheets prepared by sixth grade classroom teachers who administered and scored these tests.

There were 642 sixth grade pupils in the eight experimental schools and 627 in the eight control schools with recorded scores for the three tests. Pupils who did not have these three scores, as the result of testings in the same school, were eliminated from the study. In the first analysis differences between groups of pupils in the experimental and control schools on Otis Alpha, third grade reading and sixth grade reading scores were compared for significance. No significant differences between all the pupils in the control and experimental groups on the three testings were found.

In the next step, pupils were equated on Otis Alpha I.Q. and third grade reading scores by the matched pair technique and then compared for significant differences on sixth grade reading scores. Each pair, selected by sex, consisted of an experimental and control pupil in matched schools with equivalent third grade I.Q. and reading scores.

To determine the effects of I.Q. level on growth in reading comprehension, the matched pairs were separated into three groups on the basis of Otis Alpha scores; above 96, between 96 and 87, and below 87. Differences between the mean I.Q. and third grade reading scores of the experimental and control pupils at each level were tested for significance separately. The mean sixth grade reading scores of the equated groups at each I.Q. level were then tested for significance of the differences.

Results

Total Groups

The first analysis included all the pupils in the eight pairs of schools who had taken the Otis Alpha and primary reading comprehension tests in the third grade and the intermediate reading test in the sixth grade while attending the same schools. The mean test scores of the experimental and control pupils were compared for significant differences by the t-technique.

The result of the comparison of mean Otis Alpha I.Q.s and third grade reading scores are summarized in Table 38.

Table 38

Comparison of Otis Alpha I.Q. and Third Grade Reading Scores for Pupils in Eight Pairs of Experimental and Control Schools

	Experimental			Control			Diff.		
	N	Mean	S.D.	N	Mean	S.D.	(E-C)	t	P
Otis Alpha									
Boys	290	94.80	12.81	286	93.65	12.98	+1.15	1.07	NS
Girls	352	94.90	12.50	341	94.27	12.55	+0.63	0.66	NS
Total	642	94.86	12.64	627	93.99	12.75	+0.87	1.22	NS
Met. Read.									
Boys	290	3.45	0.98	286	3.43	1.10	+0.02	0.23	NS
Girls	352	3.69	0.97	341	3.63	0.90	+0.06	0.85	NS
Total	642	3.59	0.99	627	3.54	1.00	+0.05	0.89	NS

From Table 38 it is evident that the two groups were not significantly different with respect to mean Otis Alpha I.Q. and mean third grade reading comprehension grade equivalents. The 642 pupils in the experimental group and the 627 in the control group were found to be equated on mean Otis Alpha I.Q.s with scores of 94.86 and 93.99 respectively. The mean I.Q. of the boys in the two groups, as well as the girls, was also not significantly different.

The reading comprehension grade score of the experimental group was 3.59 as compared to 3.54 for the control and again the difference between them was not statistically significant. The comparison by sexes also showed the equality of the mean third grade reading scores.

The sixth grade reading scores of these groups were now compared for significant mean differences. The results of this analysis are found in Table 39

Table 39

Comparison of Sixth Grade Reading Scores of Pupils in Experimental and Control Schools

	Experimental			Control			Diff.		
	N	Mean	S.D.	N	Mean	S.D.	(E-C)	t	P
Boys	290	5.44	2.01	286	5.63	2.27	-0.19	1.06	NS
Girls	352	5.57	1.82	341	5.67	2.20	-0.09	0.65	NS
Total	642	5.51	1.79	627	5.65	2.23	-0.14	1.23	NS

Table 39 indicates that at the sixth grade level the two groups of pupils were not significantly different in reading grade equivalent. The experimental group scored 5.51 and the control group scored 5.65. Again, neither the boys in the two groups nor the girls attained reading scores which differed significantly.

Matched Pairs by I.Q. Levels

Pairs of experimental and control pupils were matched on Otis Alpha and third grade reading comprehension scores and compared on sixth grade reading scores by I.Q. levels.

There were 433 pairs of experimental and control pupils which could be matched on the I.Q. and reading criteria. They were divided into three groups of about equal size on the basis of Otis Alpha score: Group I, above 96; Group II, 96 to 87 and Group III, below 87. The mean I.Q. and reading scores of the boys and girls and the combined pupils at each of the three levels were tested for significance of the differences between the two groups. The results of the I.Q. and reading scores equation of matched pairs are summarised in Tables 40 and 41 respectively.

Table 40

Equation of Matched Pairs of Experimental and Control Pupils on Otis Alpha at Three I.Q. Levels

I.Q. Level		N	Experimental Mean	Experimental S.D.	Control Mean	Control S.D.	Diff. (E-C)	t	P
I	Above 96	150	105.70	7.38	105.69	7.97	+0.01	0.01	NS
II	89 - 96	135	92.42	2.44	92.87	3.35	-0.45	1.25	NS
III	Below 89	148	82.83	5.21	83.41	5.59	-0.58	0.92	NS

Table 40 shows that at each I.Q. level, the differences between the matched experimental and control groups were not statistically significant. This was also true of the boys and of the girls in the two groups at each I.Q. level.

Table 41 summarizes the distribution and comparison of third grade reading scores for the equated pairs at each of the three I.Q. levels.

Table 41

Equation of Matched Pairs of Experimental and Control Pupils on Third Grade Reading Scores at the Three I.Q. Levels

I.Q. Level		N	Experimental Mean	Experimental S.D.	Control Mean	Control S.D.	Diff. (E-C)	t	P
I	Above 96	150	4.15	0.80	4.12	0.78	+0.03	0.33	NS
II	89 - 96	135	3.50	0.71	3.46	0.73	+0.04	0.46	NS
III	Below 89	148	2.96	0.61	2.92	0.62	+0.04	0.56	NS

In Table 41 the two groups are equated on mean third grade reading scores at each of the three I.Q. levels. Again, the boys as well as the girls in each group at each level are not significantly different on third grade reading scores.

The three levels of the sixth grade reading scores for the equated experimental and control groups on each level were now analyzed separately. The summary of these comparisons is presented in Table 42

Table 42

Comparison of Sixth Grade Reading Scores of Equated Pairs of Pupils by I.Q. Levels

I.Q. Level		N	Experimental Mean	Experimental S.D.	Control Mean	Control S.D.	Diff. (E-C)	t	P
I	Above 96	150	6.64	2.07	6.93	1.91	-0.29	1.88	NS
II	89 - 96	135	5.13	1.32	5.37	1.43	-0.24	1.81	NS
III	Below 89	148	4.42	0.94	4.47	1.12	-0.05	0.48	NS

The data in Table 42 disclose that in the highest I.Q. group, the experimental pupils scored 6.64 and the control 6.93 on the sixth grade reading test. Differences between them were not statistically significant. The analysis of this group by sex revealed that the control boys achieved 0.52 grade equivalents higher than the experimental boys which approached but did not reach significance. The girls in the two groups differed by 0.10 which was not significant.

In the middle I.Q. group, the grade equivalents were 5.13 and 5.37 for the experimental and control groups respectively; the difference, however, was not significant. The analysis of this group by sex yielded no significant differences.

In the lowest I.Q. group, neither the boys nor the girls, nor the combined experimental and control groups, scored significantly different on the reading test.

Conclusions

From the data presented it may be concluded that the Higher Horizons pupils included in this study did not show greater gains in reading comprehension from the third to the sixth grade than did pupils in comparable non-Higher Horizons schools.

Summary

This study attempted to measure the effects of the Higher Horizons Program on growth in reading comprehension between the third and sixth grade. The populations studied were the pupils in the eight pairs of experimental and control schools with scores for three tests taken in the same school, the 1959-60 Otis Alpha and the third grade reading comprehension test, and the 1962-63 sixth grade reading test. Comparisons were made for significant differences by sex and combined groups of experimental and control pupils on the mean scores of the three tests. These pupils were equated on Otis Alpha and third grade reading scores by the matched pair technique and then separated into three groups on the basis of I.Q. The two groups were compared at each I.Q. level for significant difference on the third grade and on the sixth grade reading scores.

The major findings are as follows:

1. Total groups of pupils in the eight pairs of experimental and control schools which were found to be equated on Otis Alpha and third grade reading scores, were also not significantly different on sixth grade reading scores.

2. Groups equated on Otis Alpha and third grade reading scores by the matched pair technique, were not significantly different on sixth grade reading score at each of the three I.Q. levels into which they were divided.

It may therefore be concluded that pupils in the Higher Horizons Program did not exhibit greater gains in reading comprehension from the third to the sixth grade than pupils in comparable non-Higher Horizons schools.

-C. COMPARISON OF ACTUAL AND EXPECTED GROWTH IN ARITHMETIC ACHIEVEMENT OF HIGHER HORIZONS PUPILS

Problem

The purpose of this study was to investigate the effects of the Higher Horizons Program on the arithmetic achievement of participating pupils.

The question being asked is:

"Do pupils in the Higher Horizons Program make gains in arithmetic achievement greater than those normally expected?"

In the normative study differences between actual and expected gains over a period of sixteen school months in arithmetic achievement were analyzed in two areas - problem solving and computations.

Design

Population

The pupils included in this study were those enrolled in the eight representative Higher Horizons schools. They entered the third grade in September 1959 and had remained in the same school until the end of the fourth grade. Only pupils who had taken two arithmetic tests, one in November 1959 and the other in May 1962, and the Otis Alpha Tests twice in February 1960 and again in April 1961, were selected for this analysis. There were 791 pupils, 395 boys and 396 girls, with scores for the two arithmetic and two I.Q. tests.

Instruments

The data were secured from the following testings:

1. Metropolitan Arithmetic Achievement Test, Primary II, Form S which was administered to third grade Higher Horizons pupils in November 1959.
2. Metropolitan Arithmetic Achievement Test, Elementary, Form S which was administered to these pupils in May 1961 when they were in the fourth grade.
3. Otis Quick Scoring Mental Ability Test, Alpha New Edition, Form AS given to these pupils twice, in February 1960 and again in April 1961.

Both Metropolitan Arithmetic Tests are composed of two subtests, one in problem solving and the other in computation. The scores on these two parts of the test were recorded separately and also as an average of the two subtests.

Procedure

Actual gains in arithmetic achievement were calculated from differences in mean grade equivalent scores on the November 1959 and May 1961 arithmetic tests. Mean grade equivalent scores for each test were computed separately for the boys the girls and the combined group. In addition, the grade scores for the two parts of each arithmetic test, problem solving and computations, were analyzed independently and also together as an average score.

Expected gains were estimated by multiplying the time interval between the two tests, 1.6 school years, by the average of the two Otis Alpha I.Q. scores. For pupils with a mean I.Q. of 100, the expected gain in the arithmetic achievement scores for the time interval between the two tests would be 16 school months or 1.6 school years. Since the average Otis Alpha I.Q. scores of these pupils were less than 100, the time interval, 1.6 was multiplied by the mean I.Q. of the boys, the girls and the combined group separately. The mean I.Q. of the boys was 91.68, of the girls 93.31 and of the combined group, 92.49

The expected gains for each of these groups over a period of 1.6 school years, therefore, were 1.47, 1.49 and 1.49 respectively.

Results

Arithmetic Computation

Table 43 presents the actual mean grade equivalent scores of the boys, the girls, and the total group on the two administrations of the Metropolitan Arithmetic Test. Computation score gains made over a period of sixteen school months are also indicated.

Table 43

Actual Mean Grade Equivalent Scores and Gains of Higher Horizons Pupils on Arithmetic Computation Tests

Group	N	Nov. 1959	May 1961	Gains (1961-59)
Boys	395	2.59	4.04	+ 1.45
Girls	396	2.60	4.13	+ 1.53
Total	791	2.60	4.09	+ 1.49

Inspection of Table 43 indicates that the boys moved from a mean computation grade score of 2.59 in November 1959, to a mean score of 4.04 in May 1961, an actual gain of 1.45. The girls moved from 2.60 to 4.13, and the boys and girls, collectively, from 2.60 to 4.09 gains of 1.53 and 1.49 respectively.

In Table 44 are recorded the expected computation gains, the actual gains, and the differences between them.

Table 44

Comparison of Expected and Actual Mean Gains of Higher Horizons Pupils on Arithmetic Computation Tests

Group	N	Expected	Actual	Difference (Act. - Exp.)
Boys	395	1.47	1.45	- .02
Girls	396	1.49	1.53	+ .04
Total	791	1.48	1.49	+ .01

Table 44 indicates that the boys, should have gained 1.47 school years in the 1.6 school year period. Actually, they gained 1.45 school years, or .02 school years or 0.2 school months below expectancy. The girls were .04 school years above expectancy, and the total group was .01 school years above expectancy. In general, these gains were up to expectancy.

Arithmetic Reasoning or Problem Solving

In Table 45 are presented the actual mean problem solving scores on the two administrations of the Metropolitan Arithmetic Test and the gains made over the sixteen school months between them.

Table 45

Actual Mean Grade Scores and Gains of Higher Horizons Pupils on Arithmetic Problem Solving Subtests

Group	N	Nov. 1959	May 1961	Gains (1961-59)
Boys	395	2.77	4.06	+ 1.29
Girls	396	2.84	4.17	+ 1.33
Total	791	2.81	4.12	+ 1.31

Table 45 indicates that the boys moved from a mean problem solving score of 2.77 to a mean score of 4.06,a gain of 1.29 grade equivalents. The girls moved from 2.84 to 4.17gaining 1.33, and the total group moved from 2.81 to 4.12 for a total gain of 1.31 grade equivalents.

Table 46 compares the gains that the pupils on the basis of their I.Q. scores might have been expected to make in arithmetic problem solving with the gains they actually made over a period of sixteen school months. The actual gains are those shown in Table 46.

Table 46

Comparison of Expected and Actual Mean Gains of Higher Horizons Pupils on Arithmetic Problem Solving Tests

Group	N	Mean Problem Solving Gains Expected	 Actual	Difference (Act. - Exp.)
Boys	395	1.47	1.29	- .18
Girls	396	1.49	1.33	- .16
Total	791	1.48	1.31	- .17

As Table 46 indicates, the boys should have gained 1.47 school years in arithmetic reasoning. They actually gained 1.29 school years; .18 school years or 1.8 school months below expectancy. The girls were .16 school years below expectancy, and the total group was .17 years below expectancy.

Average of Computation and Problem Solving Scores

In addition to determing how the the pupils fared on each of the two subtests of the Metropolitan Arithmetic Test, it was also deemed advisable to present achievement in terms of the average of the two subtests. Tables 46 and 47are concerned with this presentation. Table 47 indicates the actual mean grade scores obtained for the computation-problem solving average of boys, girls, and total group.

Table 47

Actual Mean Scores and Gains of Higher Horizons Pupils on Average of Computation and Problem Solving Subtests

Group	N	Nov. 1959	May 1961	Gains (1961-59)
Boys	395	2.68	4.05	+ 1.37
Girls	396	2.72	4.15	+ 1.43
Total	791	2.70	4.10	+ 1.40

Table 47 shows that the boys went from a mean score of 2.68 to a mean score of 4.05 for a gain of 1.37 grade equivalents, the girls from 2.72 to 4.15, gain of 1.43, and the total group from 2.70 to 4.10 for a gain of 1.40 grade score.

Table 48 compares the gains expected in computation-problem solving average grade score with the gains actually achieved.

Table 48

Comparison of Expected and Actual Mean Gains of Higher Horizons Pupils on Average Computation and Problem Solving Test Scores

Group	N	Expected	Actual	Difference (Act. - Exp.)
Boys	395	1.47	1.37	- .10
Girls	396	1.49	1.43	- .06
Total	791	1.48	1.40	- .08

The boys should have gained 1.47 school years over the 1.6 school year period. Actually, as Table 48 indicates, they gained 1.37 school years, .10 school years or one school month below expectancy. The girls as well as the combined group were less than one month below expectancy, 0.6 and 0.8 school months respectively.

The findings reported in this study are based upon observation of mean differences between expected and actual arithmetic grade scores, rather than upon the use of statistical tests of significance of these differences. In the light of these findings it may be concluded that while the Higher Horizons Program did not maintain the level of pupil functioning in Arithmetic Problem Solving in which reading was a factor, the Program did tend to maintain the level of pupil functioning in Arithmetic Computation, as it did with the Computation-Problem Solving Average.

Conclusion

In the light of the findings in this study, it may be concluded that pupils in the Higher Horizons Program did not make gains in arithmetic achievement greater than those expected but tend to approach expected level particularly in the area of computational skills.

Summary

This normative study compared actual and expected gains in arithmetic achievement of Higher Horizons pupils over a sixteen school month period. Pupils tested with the Metropolitan Arithmetic Test in November 1959 when they were in the third grade and again when they were in the fourth grade. Actual gains were computed from the differences in the grade scores of the two testings. Expected gains were based on average of two Otis Alpha I.Q. scores multiplied by 16, the time interval between the two arithmetic tests.

The findings were as follows:

1. The actual gains in arithmetic computation were about equal to the expected gains.

2. The actual gains in arithmetic problem solving were below the expected gains by .17 grade equivalents.

3. The actual gains of the average of computation and problem solving were slightly below the expected gains by .08 grade equivalent.

The conclusion which may be drawn from these findings at this time indicates that pupils in the Higher Horizons Program did not show gains in arithmetic reasoning which exceeded expected gains but tended to approach expected level particularly in the area of computational skills.

D. A COMPARISON OF ARITHMETIC ACHIEVEMENT OF HIGHER HORIZONS AND CONTROL PUPILS

Problem

The purpose of this study was to determine the effect of the Higher Horizons Program on the arithmetic achievement of participating pupils.

The question being asked is:

> "Do pupils in the Higher Horizons schools, show greater gains in arithmetic achievement from the fourth to the sixth grade, an interval of sixteen school months, than pupils in comparable non-Higher Horizons schools?"

The longitudinal investigation analyzed differences in performance between experimental and control pupils in two areas of arithmetic achievement, problem solving and computations.

Design

Population

The pupils participating in this study were enrolled in seven of the eight representative Higher Horizons schools and seven matched control schools.[1] These pupils had entered their respective schools as third graders in September 1959, the first year of the Program, and had remained in the same school until the sixth grade when the Program was in its fourth year. During this time, they had taken two arithmetic achievement tests one in May 1962, at the end of the fourth grade and another in February 1963 as sixth graders.

Since this analysis was limited to pairs of pupils matched on fourth grade arithmetic test scores and compared on sixth grade arithmetic scores, 359 pairs were available for the comparison of computational abilities, and 374 pairs for the comparison of problem solving skills.

Instruments

The arithmetic scores were derived from the following standardized tests:

1. Metropolitan Arithmetic Test, Elementary Form S, administered to pupils in the Higher Horizons schools in May 1962, when they were in the fourth year.

2. The Metropolitan Arithmetic Test, Intermediate, Form B, administered citywide in February 1963 to all sixth grade pupils.

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[1] One pair was dropped from the study since the control school was discontinued in January 1963.

Procedure

Pupils in the experimental and control schools since the inception of the Program in September 1959 and who had taken both the fourth grade and sixth grade arithmetic tests while attending these schools were employed as the base populations in this study. Separate analyses were undertaken of the computation and problem solving grade equivalent scores.

Pupils were equated by sex on fourth grade arithmetic test scores and compared on sixth grade scores. A maximum difference of ± .2 grade equivalents was allowed in matching the pairs.

Since the analysis of the results by sex revealed no significant differences, only total groups were presented in this final report.

The significance of the differences between the experimental and control groups on both the initial fourth grade and final sixth grade arithmetic scores were determined by the appropriate t-tests.

Results

Arithmetic Computation

The comparison of the initial and final arithmetic grade equivalent scores for the total experimental and control groups, boys and girls combined, is presented in Table 49. The pupils were equated initially on fourth grade scores and compared finally on sixth grade scores.

Table 49

Comparison of Fourth and Sixth Grade Mean Arithmetic Computation Grade Equivalent Scores of Matched Pairs of Experimental and Control Pupils

Grade	Pairs N	Experimental Mean	SD	Control Mean	SD	Diff. (E-C)	t	P
Fourth	359	4.22	0.63	4.22	0.63	0	0	NS
Sixth	359	6.23	1.50	6.04	1.58	+.19	2.36	.05

Table 49 reveals that the experimental and control groups were matched exactly on the fourth grade mean computation score, 4.22. However, on the sixth grade testing the experimental group scored significantly higher than the control group 6.23 and 6.04 respectively, a difference of .19. The pupils in the experimental schools made significantly greater gains in computational skills than the pupils in the control schools.

Arithmetic Problem Solving

There were 374 pairs of pupils equated on the fourth grade arithmetic solving grade scores and then compared on sixth grade scores. Table 50 presents the results of the initial equation and the final comparison of the mean problem solving scores of the total experimental and control groups, boys and girls combined.

Table 50

Comparison of Fourth and Sixth Grade Mean Arithmetic Problem Solving Grade Equivalent Scores of Matched Pairs of Experimental and Control Pupils

Grade	Pairs N	Experimental Mean	Experimental SD	Control Mean	Control SD	Diff. (E-C)	t	P
Fourth	374	4.14	.83	4.14	.83	0	.00	NS
Sixth	374	5.72	1.55	5.43	1.47	+.29	4.06	.01

Table 50 indicates that the two groups were matched exactly on fourth grade mean arithmetic problem solving scores, 4.14. On the final sixth grade score, however, the experimental group scored significantly higher than the control group 5.72 as compared to 5.43, a difference of .29. The pupils in the experimental schools made significantly greater gains in problem solving skills over an eighteen school months period than their control counterparts.

Conclusions

In the light of the findings and under the conditions of this study, it may be concluded that pupils in the Higher Horizons Program showed greater gains in arithmetic achievement than their control counterparts.

Summary

The purpose of this study was to determine the effect of the Program on the arithmetic achievement of participating pupils. Gains in arithmetic ability from the fourth to the sixth grade of experimental and control pupils were compared. Grade equivalent scores based on the administration of Metropolitan Arithmetic Tests in the fourth and again in the sixth grade were utilized for comparisons.

The two groups were equated on the fourth grade arithmetic scores by the matched pair technique and compared for significant differences on sixth grade scores. The gains in arithmetic computation and problem solving, the two subtests of the Metropolitan Arithmetic Test, were analyzed separately.

The major findings were as follows:

1. The experimental pupils made significantly greater gains in arithmetic computation from the fourth to the sixth grade than their control counterparts.

2. The experimental pupils also showed significantly greater gains in problem solving over this same period of time than the controls.

The conclusion which may be drawn from these findings is that pupils in the Higher Horizons Program made greater gains in arithmetic achievement both in problem solving and computational skills from the fourth to the sixth grade than matched pupils in control schools.

E. COMPARISON OF HIGHER HORIZONS AND CONTROL PUPILS TESTING BELOW THE NORM IN READING COMPREHENSION AT THE THIRD GRADE

Problem

The purpose of this study was to determine the extent to which pupils in the Higher Horizons Program with scores below the norm at the time of third grade testing improve in their reading comprehension as compared to pupils in comparable non-Higher Horizons schools.

The problem may be presented as follows:

> "Do pupils in Higher Horizons schools whose reading comprehension grade scores are below the norm at the third grade, show greater improvement by the sixth grade than their control counterparts?"

Design

Population

The population selected for investigation was identical with that used in the previous study. It consisted of pupils in the eight pairs of experimental and control schools who had taken two reading tests while attending the same school. There were 642 pupils consisting of 290 boys and 352 girls in the experimental schools and 627 pupils, 286 boys and 341 girls, in the eight control schools with both third and sixth grade reading scores as a result of testings in the same school. Sub-groups reading below third grade norms were drawn from this base population.

Instruments

The scores analyzed were derived from the Metropolitan Reading Achievement Test, Primary II, Form S given citywide to third grade pupils April 1960 and Metropolitan Reading Achievement Test, Intermediate, Form B also given citywide to sixth graders October 1962. The time interval between the two testings was 2.5 school years.

Procedure

This analysis considered only those pupils with both third and sixth grade reading comprehension scores and whose third grade reading scores were less than 3.6, the norm for New York City third grade pupils at the time of the test.

The first step in the procedure was to calculate the percentages of experimental and control pupils with reading scores of less than 3.6, that is, scores below the grade norm. The significance of the difference in percentages between the two groups was determined. The norm for New York City sixth grade pupils at testing time in October was 6.1. Significance of the difference between percentages of these pupils reading below the grade norm of 6.1 in each group was ascertained.

A second and more rigorous analysis involved matched pairs of pupils who read below norms. They were equated initially on third grade scores and compared finally on the mean sixth grade reading scores.

The final analysis also involved matched pairs of pupils, but only those reading at 2.6 or less, that is, one year or more below the grade norm. They were initially equated on third grade reading scores and then compared on sixth grade scores. Mean differences between the groups on the initial matching and final comparison were determined by the t-test.

Results

Total Group

A comparison of numbers and percentages of boys, of girls and of the total experimental and control population with reading scores below 3.6 are presented in Table 51.

Table 51

Comparison of Percentages of Experimental and Control Pupils Reading Below Norm at the Third Grade

	Experimental			Control					
	Total	Below 3.6	Percent.	Total	Below 3.6	Percent.	Diff. (E-C)	t	P
Boys	290	167	57.39	286	164	57.34	+0.05	0.01	NS
Girls	352	174	49.43	341	168	49.85	-0.42	0.08	NS
Total	642	341	53.12	627	332	52.95	+0.17	0.04	NS

Table 51 indicates that 53.12 per cent of the experimental pupils and 52.95 per cent of the control pupils tested below 3.6. The difference in these percentages was not statistically significant. Similarly, the percentages of boys in the two groups and of girls reading below 3.6 were not significantly different.

The sixth grade reading comprehension scores of these same experimental and control pupils below the norm score of 6.1 were compared for significant differences. The results of this analysis by percentages are given in Table 52.

Table 52

Comparison by Percentages of Experimental and Control Pupils Reading Below Norm at the Sixth Grade

	Experimental			Control					
	Total	Below 6.1	Percent.	Total	Below 6.1	Percent.	Diff. (E-C)	t	P
Boys	290	205	70.69	286	187	65.38	+5.31	1.13	NS
Girls	352	239	67.90	341	228	67.06	+0.84	0.19	NS
Total	642	444	69.16	627	415	66.29	+2.87	0.90	NS

As shown in Table 52 no significant differences in percentages were found between the boys, the girls or between the total experimental and control groups scoring below the norm in reading at the sixth grade. Whereas, approximately one out of two pupils, 50 per cent, in each group was below the norm at the third grade, two out of three tested below the norm at the sixth grade - 69.16 per cent of the experimental and 66.29 per cent of the controls. It was also found that 95 per cent of the experimental and an equal percentage of the control pupils who scored below the norm at the third grade remained below the norm at the sixth grade. Only 23 experimental and 22 control pupils testing below 3.6 at the third grade scored 6.1 or higher at the sixth grade.

Analysis by Matched Pairs

1. Pupils Testing Below 3.6, the Norm at the Third Grade

In the following analysis, groups were equated initially by matching individual pairs of pupils with third grade reading scores below 3.6, by sex within pairs of schools. These equated groups were compared finally on sixth grade reading achievement. There were 211 matched pairs in which both the experimental and control members could be equated on reading scores below 3.6. The results of the initial matching on third grade scores and the final comparison on their sixth grade scores are presented in Table 53.

Table 53

Comparison of Third Grade and Sixth Grade Reading Scores of Matched Pairs of Pupils Testing Below the Norm at the Third Grade

		Experimental		Control		Diff.		
Grade	N	Mean	S.D.	Mean	S.D.	(E-C)	t	P
Third	211	2.85	.45	2.80	.47	+.05	1.11	NS
Sixth	211	4.43	.97	4.39	.99	+.04	.51	NS

Table 53 shows that the 211 pairs were equated on the third grade reading test scores within .05 grade scores, 2.85 for the experimental and 2.80 for the control groups.

The two equated groups were not significantly different on sixth grade reading scores. The experimental group achieved a mean score of 4.43 and the controls, 4.39. Both groups were about 8 months below the third grade norm and 17 months below the norm at the sixth grade. With very few exceptions the same pupils testing below 3.6 at the third grade, scored below 6.1 at the sixth: 93.36 per cent of the experimental and 94.31 per cent of the controls were in this category.

2. Pupils Testing 2.6 or less, One Year or More Below the Norm at the Third Grade

The final analysis of the data was confined to pupils scoring 2.6 or less on the third grade reading test, that is, at least one year below the third grade norm. There were 58 pairs of pupils in which both the experimental and the control partners tested 2.6 or less at the third grade. As in the previous analysis, the two groups were initially equated by matching on third grade scores and compared finally on sixth grade scores. Mean initial equating third grade scores and final sixth grade scores are compared in Table 54.

Table 54

Comparison of Third Grade and Sixth Grade Reading Scores of Matched Pairs of Pupils Scoring One Year or Less Below Norm at Third Grade

Grade	N	Experimental Mean	Experimental S.D.	Control Mean	Control S.D.	Diff. (E-C)	t	P
Third	58	2.29	.26	2.26	.25	+.03	.63	NS
Sixth	58	4.03	.82	3.88	.72	+.15	1.21	NS

As indicated in Table 54 the two groups of matched pairs of pupils were initially equated on third grade reading scores; 2.29 for the experimental and 2.26 for the control groups. In both cases, the groups were 13 months below the reading norm of 3.6. A final comparison of sixth grade scores shows that the difference between them was not statistically significant. The experimental groups scored 1.5 school months higher than the control groups. The mean score of the experimental group was 21 months below the sixth grade norm and that of the controls, 22 months below the norm. Again almost all the pupils testing 2.6 or less at the third grade scored 5.1 or less at the sixth, 49 of the experimental and 52 of the control pupils. Only one of these pupils in the experimental schools and none in the controls, scored above 6.1.

Conclusions

From the findings presented in this study, it may be concluded that for the population considered, pupils in the Higher Horizons schools testing below the norm at the third grade do not show greater improvement in reading comprehension by the sixth grade than pupils in comparable non-Higher Horizons schools.

Summary

This study attempted to determine the effects of the Higher Horizons Program on the reading comprehension of pupils with scores below the norm at the third grade.

The populations studied consisted of pupils in the eight pairs of experimental and control schools who were in the third grade in 1959-60, in the sixth grade in 1962-63 and had third and sixth grade reading scores.

The percentages of experimental and control pupils who tested below the reading norm at the third grade were compared for significant differences. These pupils were compared again on sixth grade reading scores. Pupils initially equated on scores below the third grade norm were compared for significant differences at sixth grade. Finally, equated pupils testing one year or more below third grade reading norms were again compared on sixth grade reading scores.

The major findings were as follows:

1. The percentages of experimental and control pupils scoring below the reading norm at the third grade were almost identical, 53.12 per cent and 52.95 per cent respectively. At the sixth grade, the percentages of these pupils scoring below the reading norm were not significantly different, 69.16 per cent of the experimental and 66.29 per cent of the controls. In both instances, the number had increased from one out of two in the third grade to two out of three in the sixth.

2. When equated pairs of experimental and control pupils with below third grade reading norm scores were compared on sixth grade scores, they were not significantly different. With very few exceptions, pupils below the norm at the third grade were also below the norm at the sixth grade.

3. Pupils individually equated on scores at least one year below the third grade norm, were not significantly different on sixth grade reading scores. Again, practically all experimental and control pupils one year or more below the norm at the third grade were also one year or more below the norm at the sixth grade.

From the findings presented in this study, it may be concluded that for the populations considered, pupils with below reading norms at the third grade in the Higher Horizons schools did not show more improvement in reading comprehension by the sixth grade than their control counterparts.

CHAPTER VI

SCHOOL ATTITUDES AND SOCIAL DEVELOPMENT

A. COMPARISON OF CLASSROOM BEHAVIOR OF THIRD AND FIFTH GRADE PUPILS IN HIGHER HORIZONS AND CONTROL ELEMENTARY SCHOOLS

Problem

The purpose of the present study was to determine the effects of the Higher Horizons Program on the attitude of the participating pupils toward school as reflected by their classroom behavior. The question being answered is:

> "Do elementary school pupils in the Higher Horizons Program display better classroom behavior as indicated by teacher ratings than pupils in comparable non-Higher Horizons schools?"

Procedure

Populations

The pupils included in this study were drawn from the third and fifth grades in the eight experimental Higher Horizons and eight matched control schools.

1. Third Grade Populations: 3-61H and 3-61C

   The 3-61H group consisted of pupils who were enrolled in the third grade in the eight Higher Horizons schools in September 1961. The 3-61C group contained pupils who were in the third grade in the eight control schools in September 1961.

2. Fifth Grade Populations: 3-59H and 3-59C

   The 3-59H group included pupils enrolled as third graders in the eight Higher Horizons schools in September 1959, the first year of the Program and who were in the same school as fifth graders during the September 1961 school year. The 3-59C group was composed of pupils who were in the eight control schools during the same time interval.

In order to make an adequate comparison between the groups, it was necessary to identify those pupils who had been in their respective experimental and control schools for at least two years. This procedure was necessary because of the high rate of pupil turnover in these schools.

An analysis of the class data sheets revealed that of the fifth grade pupils participating in the study, 88.0 per cent of the experimental and 88.9 per cent of the control population had been in their respective schools since at least the third grade. The remaining 10 per cent had been in their schools for varying periods of time. Since almost 90 per cent of the pupil sample was constant in both groups, it was assumed that the small transient population would not seriously affect the obtained results.

Instrument

Classroom behavior was measured by the Classroom Discipline Scale which was developed by the investigators for this study.[1] This Scale consists of a list of ten areas of student behavior in the classroom. The teacher rates each pupil for each item by placing a check under one of the five category headings which indicates how frequently such behavior occurs: a-never, b-rare (once or twice a term), c-occasional (once a month), d-frequent (once a week), and e-very frequent (two or three times a week). The ratings were given numerical values ranging from 1 to 5. An item checked under the heading "never" was scored one point, "rare" was given 2 points, "occasional" 3 points, "frequent" 4 points, and "very frequent" 5 points. Total scores for the ten items ranged from 10 to 50, the lowest score indicating best behavior and the highest score worst behavior.

The third and fifth grade pupils in the eight experimental and control schools were rated twice by their teachers on the Classroom Discipline Scale. The same teacher rated the same pupils at the beginning of the school year in November, 1961 and again at the end of the school year in June, 1962.

Procedure

About half the pupils in the third and fifth grade classes in the experimental and control schools were selected systematically for this study by having the teacher write on a specially prepared form the name of every other pupil who had been on her class register prior to October 31, 1961.

During the week of November 27, 1961, the teacher completed the initial ratings on the Scale for those pupils who were selected. Approximately 550 third grade pupils in experimental schools and about an equal number in the control schools were rated by their teachers. About the same numbers of fifth grade pupils in the experimental and control schools were also assessed by their teachers.

The final ratings of classroom behavior were made during the week of June 4, 1962 by the same teachers who had rated the selected pupils initially.

Approximately 80 per cent of the pupils who were evaluated in November, 1961, were rated again in June, 1962. The 20 per cent loss of the original sample was the result of pupil and teacher turnover.

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[1] A copy of the Classroom Discipline Scale and a description of its development appear in Appendix A.

To determine the effects of the Higher Horizons Program on classroom behavior, pairs of pupils from experimental and control schools were matched on a one to one basis on initial total teacher rating. These groups of equated pairs were compared for significant differences on the final teacher estimates. The pairing on initial rating score was done within matched pairs of schools by grade and sex.

Comparisons of final total teacher ratings of these groups of equated pupils were made, the significance of the difference being calculated by the formula for correlated groups.

Findings

Third Grade: 3-61H and 3-61C Groups

The findings are based on differences between third grade experimental and control groups which were equated on initial teacher ratings and compared for significance on final teacher ratings.

The results of matching third grade pupils by pairs on initial teacher rating, for the total group as well as for the boys and girls separately, are presented in Table 55.

Table 55

Equation of Third Grade Experimental and Control Groups on Initial Teacher Ratings on Classroom Discipline Scale

	Pairs	Experimental		Control		Diff.		
	N	Mean	S.D.	Mean	S.D.	(E-C)	t	P
Boys	155	19.52	7.57	19.54	7.52	-.02	0.02	NS
Girls	118	16.51	5.34	16.19	5.29	+.32	0.46	NS
Total	273	18.22	6.85	18.09	6.85	+.13	0.22	NS

Table 55 reveals that the groups of paired third grade pupils in the experimental and control schools were not significantly different on initial teacher ratings. In addition, initial means for boys as well as the girls in the two groups were not significantly different.

The two equated groups were then compared on the final teacher ratings; these results are presented in Table 56.

Table 56

Comparison of Final Teacher Ratings on the Classroom Discipline Scale of Matched Pairs of Third Grade Pupils in Experimental and Control Schools

	Pairs	Experimental		Control		Diff.		
	N	Mean	S.D.	Mean	S.D.	(E-C)	t	P
Boys	155	21.34	7.62	21.80	8.40	-.46	0.18	NS
Girls	118	17.66	6.25	16.76	6.80	+.90	1.06	NS
Total	273	19.75	7.29	19.27	8.05	+.48	0.73	NS

Table 56 shows that there were no statistically significant differences on the final teacher ratings of third grade pupils equated on initial teacher estimates.

Fifth Grade: 3-59H and 3-59C Groups

The findings for the fifth grade were also based on differences between experimental and control groups of pupils matched on initial teacher ratings and compared for significance on final teacher estimates.

A comparison of the results of matching fifth grade boys and girls separately and in a combined group on initial teacher ratings is presented in Table 57.

Table 57

Equation of Fifth Grade Experimental and Control Groups on Initial Teacher Ratings on the Classroom Discipline Scale

	Pairs	Experimental		Control		Diff.		
	N	Mean	S.D.	Mean	S.D.	(E-C)	t	P
Boys	136	18.66	6.80	18.62	6.92	+.04	0.05	NS
Girls	139	15.76	5.77	15.99	5.06	-.23	0.31	NS
Total	275	17.20	6.34	17.29	6.63	-.09	0.15	NS

As can be seen in Table 57, the means for the total pairs of fifth grade pupils in the experimental and control schools were not significantly different on the initial teacher ratings. This was also true for the boys as well as the girls in the two groups.

The two equated fifth grade groups were then compared for differences on the final teacher ratings of their classroom behavior. The results are presented in Table 58.

Table 58

Comparison of Final Teacher Ratings on Classroom Discipline Scale of Matched Pairs of Fifth Grade Pupils in Experimental and Control Schools

	Pairs N	Experimental Mean	Experimental S.D.	Control Mean	Control S.D.	Diff. (E-C)	t	P
Boys	136	19.15	7.74	19.90	7.62	-0.75	1.05	NS
Girls	139	16.25	6.99	17.77	6.43	-1.52	2.46	.05
Total	275	17.68	7.52	18.82	7.12	-1.14	2.44	.05

Table 58 indicated that the final teacher estimates of classroom behavior of matched fifth grade pupils favored the experimental over the control group, the mean difference being statistically significant. Note that on this scale, a lower score represents better behavior. Both the boys and the girls in the experimental schools were rated as showing relatively better classroom behavior than their control counterparts. The differences were 0.75 and 1.52 points respectively. However, only the latter difference for the girls was statistically significant.

Item Analysis of Classroom Discipline Scale for Fifth Grade Groups

To determine the specific items of classroom behavior which differentiated the two groups of matched fifth grade pupils, differences in teacher ratings on each of the ten Scale items were tested for statistical significance. The procedure followed in this item analysis was the same as that used previously in total score comparisons. Pupils were equated on initial teacher ratings for each item of the Scale separately and compared for differences on the final teacher ratings for that item. The equating was done by sex within each pair of matched schools. Since the matching was done item by item, the number of pairs equated for each item varied. The results of this intensive item analysis are given in Table 59.

Table 59

Significance of Differences in Mean Final Teacher Ratings for the Matched Experimental and Control Groups on Each Item of the Classroom Discipline Scale

	Total		Boys		Girls	
	No. Pairs	t E-C[1]	No. Pairs	t E-C[1]	No. Pairs	t E-C[1]
1. Lack of interest in school	212	-1.03	101	+0.43	111	-1.83
2. Defiance of Teacher and School	247	-1.02	120	-0.56	127	-0.92
3. Restlessness	223	-3.06**	106	-2.73**	117	-1.68
4. Obscene language	257	-1.91	124	-0.23	133	-2.89**
5. Stealing	268	-0.20	131	+0.13	137	-0.65
6. Cheating	246	-0.69	120	+0.27	126	-1.43
7. Physical contact	235	-0.71	114	-0.50	121	-0.51
8. Provocative behavior	239	-0.91	114	-0.85	125	-0.46
9. Withdrawn behavior	187	+0.72	92	+0.92	85	+0.09
10. Emotional outburst	248	-2.80**	124	-1.06	124	-3.33**

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[1] Item mean of the experimental group minus the item mean of the control group.

** Significant at or beyond the .01 level of confidence.

Table 59 reveals that for the total groups, the final ratings of the experimental teachers were more favorable than those of the control teachers on all but one of the ten items included in the Classroom Discipline Scale. The exception was item 9, withdrawn behavior. However, these differences were statistically significant for only two items: item 3, restlessness, and item 10, emotional outbursts. The fifth grade teachers in the experimental schools as compared to those in the control schools reported less restlessness and less emotional outbursts among their pupils.

The item analysis on the basis of sex, revealed that for the girls the ratings of teachers in the experimental schools were more favorable on all but one of the ten Scale items, namely, withdrawn behavior. The pattern was identical with that for the entire group. However, only two of these differences were statistically significant - use of obscene language and emotional outburst. In other words, the control teachers reported greater use of obscene language and more frequent emotional outbursts among their girls than did the experimental teachers for their girls.

Among the boys, six Scale items were reported more favorably by the teachers in the experimental schools but only one, restlessness, showed statistical significance. The control teachers reported restlessness among the boys more often than did the experimental teachers.

The findings in this study appear to support the hypothesis that the Higher Horizons Program is effective in improving pupil behavior as measured by teacher judgment of classroom discipline. The fact that there were no differences in the ratings of classroom discipline between the third grade pupils in the experimental and control schools may be attributed to the short time the experimental third graders had been exposed to the Program. The better classroom discipline of the fifth grade group in the experimental school may have been the result of the long term effects of the Program on pupil behavior.

Conclusions

From the data presented in this investigation, it may be concluded that as a group, pupils in the Higher Horizons Program for at least two years display better classroom behavior as indicated by teacher ratings than pupils in control schools for the same period of time. For the pupils participating in the program only one year, the experimental group showed no superiority in classroom behavior over their control counterparts.

Summary

The purpose of this study was to determine the effect of the Higher Horizons Program on selected aspects of classroom behavior of pupils. Third and fifth grade pupils in eight experimental and matched control schools were rated twice by their teachers on the Classroom Discipline Scale, initially in November, 1961 and finally in May, 1962.

It was found that as a group, third grade pupils in the experimental and control schools, boys and girls alike, equated on the initial total teacher rating, were not significantly different on the final teacher judgment of their classroom behavior over the period studied.

The experimental fifth grade group, boys and girls combined, equated on initial teacher estimates was significantly different from the control group on the final teacher ratings. The analysis by sex showed that these ratings were significantly higher for the experimental girls. Although the experimental boys were rated higher than the control boys, the difference was not significant.

The specific items of classroom discipline which differentiated the two fifth grade groups were item 3, restlessness, and item 10, emotional outbursts. The boys in the experimental group were rated as significantly less restless than their counterparts in the control schools. The fifth grade girls in the experimental schools were rated as using significantly less obscene language and displaying less emotional outbursts than the girls in the control schools.

The conclusion which may be drawn from the data presented, is that pupils in the Higher Horizons Program for at least two years are judged by their teachers to be better in classroom behavior than pupils in control schools for the same period of time. Furthermore, pupils participating in the program for only one year did not differ in classroom behavior from their control counterparts.

B. COMPARISON OF SCHOOL ATTITUDES OF FIFTH GRADE PUPILS IN HIGHER HORIZONS AND CONTROL SCHOOLS

Problem

The present study is the first of two investigations designed to determine the effects of the Higher Horizons Program on the attitudes of participating pupils towards school.

The questions being asked are:

> "Do Higher Horizons pupils exhibit better school attitudes than Control pupils as measured on pupil self-rating scales?"
>
> "Do Higher Horizons pupils exhibit better school attitudes than Control pupils as measured by teachers' ratings of pupil attitudes?"

Design

Populations

1. Pupils

The pupils were enrolled in the fifth grade during the 1961-62 school year in the eight experimental and eight matched control schools. In order to make valid comparisons of the effect of the Program on attitudes, only those pupils who had been in their respective schools for at least two years were selected. About 50% of the fifth grade pupils in the sixteen schools were included in this study. There were 525 pupils in the experimental group and 562 in the control group.

2. Teachers

Only those fifth grade teachers who had been with their classes since the beginning of the 1961-62 school year were asked to rate their pupils at the end of the school year.

Instruments

Two instruments were developed for this study: Pupil Self-Rating Scale and the Teacher Rating Scale of Pupil Growth. These Scales appear in Appendix B . Both consist of a checklist of sixteen items, four each in areas describing attitudes toward school, self, other pupils and work habits.

1. Pupil Self-Rating Scale

The Scale was completed at the end of the 1961-62 school year by selected fifth grade pupils. The Scale provided for two ratings on each item in a single administration. First, the pupil had to think back to what he believed his attitude for a given item was nine months previously at the beginning of the school year. This rating was called the "Then" score. The second rating was an estimate of his present attitude towards the same item, now, at the end of the school year. This rating constituted the "Now" score. Ratings were based on a five point scale, "one" being the lowest score and "five" the highest score for an item. The most favorable total score was 16 x 5 or 80 and the least favorable was 16 x 1 or 16 points.

2. Teacher Rating Scale of Pupil Growth

The Teacher Rating Scale contained the same sixteen items and the same five point Scale as the Pupil Form.

Procedure

Both the Teacher and the Pupil Scales were administered during the week of June 4, 1962. The fifth grade pupils and teachers in the experimental and control schools participating in this study were given special instructions for completing the Scales for the purpose of standardizing the test procedure.

The Pupil Self-Rating Scale and Teacher Rating Scale data were analyzed separately. Mean overall Pupil Self-Rating "Then" and "Now" scores for the entire experimental and control groups were calculated and compared for significant differences. The analysis of the data showed that the two groups were significantly different on the mean initial "Then" scores. Therefore, it was necessary to equate the two groups initially. The equating was done by sex within matched pairs of schools on "Then" scores. These equated groups were compared on final "Now" scores.

The Teacher Ratings of Pupils were analyzed only for those pupils who had previously completed a Self-Rating form. The data were treated by the same statistical procedures as were employed with pupil responses.

Findings

Pupil Self-Ratings

The experimental and control groups were equated initially on "Then" scores by sex within pairs of schools using matched pairs. The two groups were then compared finally on "Now" scores. There were 425 pairs of pupils selected for this analysis. They represented about 80 per cent of the total experimental population of 525 pupils and 75 per cent of the total control population of 562 pupils. The mean"Then" scores of these two matched populations were not significantly different from the mean of the total pupil populations.

The results of the analysis of the two groups equated initially on "Then" scores and compared on "NowW scores are presented in Table 60 .

Table 60

Comparison of Mean "Then" and "Now" Pupil Self-Rating Scores of Equated Pairs of Experimental and Control Fifth Grade Pupils

	Pairs	Experimental Mean	Experimental S.D.	Control Mean	Control S.D.	Diff. (E-C)	t	P
"Then" Score	425	61.01	10.62	61.06	10.47	-0.05	0.07	NS
"Now" Score	425	68.18	9.73	68.12	8.28	+0.06	0.11	NS

Table 60 indicates that the two groups were equated within 0.05 points on the mean "Then" score. They were also not significantly different when compared on their mean "Now" scores.

Teacher Ratings

The mean "Now" and "Then" scores on the Teacher Rating Scale of Pupil Growth for all fifth grade experimental and control pupils who had completed a self-rating scale are compared in Table 61.

Table 61

Comparison of "Now" and "Then" Scores on Teacher Rating Scales of Growth for Fifth Grade Pupils in Experimental and Control Schools

	Experimental N	Experimental Mean	Experimental S.D.	Control N	Control Mean	Control S.D.	Diff. (E-C)	t	P
"Then" Scores	525	48.68	13.77	562	49.36	13.60	-0.68	0.82	NS
"Now" Scores	525	58.86	13.37	562	58.73	12.24	+0.13	0.17	NS

Table 61 shows that there were no statistically significant differences in mean "Then" scores of the total experimental and control groups. Since the two groups were found to be initially equal on the "Then" scores, the two groups were compared on the "Now" mean scores. The mean "Now" scores followed the same trend: the two groups were not significantly different.

A more refined method of analysis was used involving the matched pair technique. The pupils in the experimental and control schools were equated by pairs on the initial teacher rating, the "Then" score, and compared for differences on the "Now" score. Again the two groups showed no statistically significant differences on final "Then" scores.

Conclusion

From the data presented it may be concluded that there was no statistically significant difference in school attitudes between Higher Horizons and Control pupils as rated both by the pupils themselves and by their teachers.

Summary

The purpose of this initial study was to assess the effects of the Higher Horizons Program on the attitudes of pupils toward school.

Fifth grade pupils in eight experimental and eight matched control schools rated themselves on the Pupil Self-Rating Scale. Their teachers also rated them on a Teacher Rating Scale of Pupil Growth. These two forms are identical.

The Scales required two ratings for each item in a single administration. The "Then" and "Now" scores. The rater was asked to think back to the beginning of the school year and estimate his attitude toward the item as of that time. This was the "Then" score. The "Now" score is an estimate of his attitude toward the same item now, at the end of the school year when the Scales were administered.

The findings revealed that the fifth grade pupils in the experimental and control schools did not rate themselves significantly different with respect to their attitudes toward school. Furthermore, the teacher ratings of these two groups of pupils were not significantly different.

These findings seem to indicate that the pupils in the Higher Horizons and Control schools were functioning at the same attitudinal level as seen by themselves and by their teachers.

C. COMPARISON OF SCHOOL ATTITUDES OF THIRD AND SIXTH GRADE PUPILS IN HIGHER HORIZONS AND CONTROL ELEMENTARY SCHOOLS

The previous study involved the single administration of a pupil self-rating and a teacher rating form which were completed by fifth grade pupils and their teachers at the end of the school year in June 1962.

The present study is a follow-up of the previous investigation and is also designed to measure the effects of the Higher Horizons Program on the attitudes of pupils towards school, towards others, towards self and work habits. In this study, two groups of pupils and teachers were involved using a revised rating form which was administered twice, at the beginning and at the end of the school year 1962-63.

Problem

The purpose of this study was to answer the same questions as in the previous study.

> "Do pupils in the Higher Horizons Program exhibit better school attitudes than pupils in control schools as measured by pupil self-rating scales?"
>
> "Do pupils in Higher Horizons Program exhibit better school attitudes than pupils in control schools as measured by the teacher rating scale of pupil attitude?"

Design

Populations

The populations samples in this study were pupils enrolled in the third and sixth grade during the school year 1962-63 in eight experimental Higher Horizons and eight matched control elementary schools. The sixth grade sample was limited to those pupils who had been in their respective schools for at least three of the four years of the program.

Instruments

The data were obtained from two forms of the School Attitude and Adjustment Scale. The two forms are identical; they contain twelve items descriptive of a pupil's attitude towards school, towards others, toward self and work habits. There are three items in each of these attitudinal categories. These scales appear in Appendix C. Pupils completed the Pupil Self-Rating Scale, and teachers, the Teacher Rating of Pupil Scale.

1. Pupil Self-Rating Scale

The pupil Self-Rating Scale was administered to the sixth grade classes twice, at the beginning and again at the end of the school year 1962-63. Pupils rated themselves for each item in terms of how often an attitude was expressed; 1 - never; 2 - hardly ever; 3 - seldom; 4 - sometimes; 5 - usually; 6 - almost always; and 7 - always. The total scores for the twelve items ranged from 96 to 12; the highest score indicating the most desirable and the lowest score the poorest attitudes and adjustments. The pupil rating scale was not administered to the third grade pupils because of the high reading level required to complete this instrument.

2. Teacher Rating of Pupil Scale

These Scales were completed on two separate occasions by the third and sixth grade teachers of selected classes, once at the beginning and again at the end of the 1962-63 school year.

Procedure

About half the pupils in the third and sixth grade classes in each of the eight experimental and control schools were selected for this study. The principal chose every other class so as to obtain a representative sample of the third and sixth grade classes in each school.

During the week of November 26, 1962, the selected sixth grade pupils and their teachers completed the pupils self-rating and the teacher rating of pupil Scales respectively. During this week, the third grade teachers also rated their pupils. Only those third and sixth grade pupils who had been in their classes for at least one month prior to the testing date were included in the sample.

The initial administration involved 723 pupils in the control schools, 406 in the third and 317 in the sixth. In the experimental schools there were 898 pupils, 524 in the third grade and 374 in the sixth.

The final administration of the Scales took place during the week of June 3, 1963. Only the Scales of those third and sixth grade pupils and teachers who had completed the scale initially and finally were analyzed.

To determine the effects of the Program on the attitudes of pupil, the pupil and teacher scales were analyzed separately. At the sixth grade, the mean initial and final ratings of both pupils and teachers in the experimental and control groups were compared for significant differences. At the third grade, the initial and final mean total teacher ratings of both groups of pupils were compared for significant differences.

Findings

Sixth Grade - Pupil Self-Ratings

A comparison of the initial mean pupil self-ratings on the School Attitude and Adjustment Scale by sex and total groups is presented in Table 62.

Table 62

Comparison of Initial Mean Self-Rating Scores on the School Attitude and Adjustment Scale of Sixth Grade Pupils

	Experimental			Control					
	N	Mean	S.D.	N	Mean	S.D.	Diff (E-C)	t	P
Boys	137	71.12	7.55	102	69.37	9.61	+ 1.75	1.59	N.S.
Girls	174	72.87	7.39	124	74.07	8.30	- 1.20	1.29	N.S.
Total	311	72.10	7.48	226	71.95	8.93	+ 0.15	0.21	N.S.

Table 62 indicates that there were no significant differences on the initial mean self-rating scores between the two groups as well as the boys and the girls.

A comparison of the final mean total self-rating scores of the same sixth grade pupils in the experimental and control groups is given in Table 63.

Table 63

Comparison of Final Mean Pupil Self-Rating Scores of Sixth Grade Pupils

	Experimental			Control					
	N	Mean	S.D.	N	Mean	S.D.	Diff (E-C)	t	P
Boys	137	68.91	7.38	102	68.95	8.32	- 0.04	0.04	N.S.
Girls	174	72.06	6.67	124	72.03	7.26	+ 0.03	0.04	N.S.
Total	311	70.67	7.19	226	70.64	7.91	+ 0.03	0.05	N.S.

The data in Table 63 shows that the pupils in the experimental and control groups did not rate themselves significantly different on the final administration of the School Attitude and Adjustment Scale. The mean scores for the boys, and girls and the total of the two groups were almost identical.

Sixth Grade - Teacher Rating of Pupil Attitudes

A comparison was made of the teachers' initial ratings of those sixth grade pupils in the experimental and control schools who had rated themselves. The results of the analysis are found in Table 64.

Table 64

Comparison of Mean Initial Teacher Ratings of Sixth Grade Pupils on the School Attitude and Adjustment Scale

	Experimental			Control			Diff		
	N.	Mean	S.D.	N	Mean	S.D.	(E-C)	t	P.
Boys	137	57.12	14.77	102	54.45	14.80	2.67	1.38	N.S.
Girls	174	61.98	15.19	124	62.47	11.70	-0.49	0.31	N.S.
Total	311	59.84	15.19	226	58.85	13.78	0.99	0.79	N.S.

Table 64 reveals that there were no significant differences on the initial teacher ratings of sixth grade boys, girls, and total group in the experimental and control schools.

The final teacher ratings of the same sixth grade pupils in the two groups were compared for significant differences; the results are presented in Table 65.

Table 65

Comparison of Mean Final Teacher Ratings of Sixth Grade Pupils

	Experimental			Control			Diff		
	N	Mean	S,D.	N	Mean	S.D.	(E-C)	t.	P.
Boys	137	56.39	14.88	102	55.53	13.93	0.86	0.46	N.S.
Girls	174	60.97	15.61	124	62.34	12.22	-1.37	0.85	N.S.
Total	311	58.95	15.47	226	59.27	13.44	-0.32	0.26	N.S.

Table 65 shows that there were no significant differences on final teacher estimates of the boys, girls, and total groups in the sixth grade in the experimental and control schools.

Third Grade - Teacher Ratings of Pupil Attitudes

The third grade teachers in the experimental and control schools rated their pupils on the School Attitude and Adjustment Scale in November 1962, the beginning of the school year. The results of this comparison are given in Table 66.

Table 66

Comparison of Initial Mean Total Teacher Ratings of Third Grade Pupils

	Experimental			Control			Diff		
	N.	Mean	S.D.	N.	Mean	S.D.	(E-C)	t	P
Boys	240	50.63	9.93	172	49.20	14.35	1.43	1.13	N.S.
Girls	235	55.83	11.64	218	56.96	13.58	-1.13	0.95	N.S.
Total	475	53.20	11.13	390	53.54	14.44	-0.34	0.38	N.S.

Table 66 shows no significant differences in the initial total ratings on the School Attitude and Adjustment Scale of third grade boys, girls, and total group in the experimental and control schools.

The final teacher estimates of the school attitudes and adjustment of the same grade pupils in the experimental and control groups were compared. The results are given in Table 67.

Table 67

Comparison of Final Mean Total Teacher Ratings of Third Grade Pupils

	Experimental			Control			Diff		
	N.	Mean	S.D.	N.	Mean	S.D.	(E-C)	t	P
Boys	240	49.74	12.67	172	49.11	13.14	0.64	0.49	N.S.
Girls	235	55.38	12.20	218	57.81	13.23	2.43	2.03	0.5
Total	475	52.53	12.75	390	53.97	13.82	1.44	1.57	N.S.

Table 67 indicated that the mean teacher ratings of third grade girls in the control school was significantly higher than those in the experimental school. The actual difference was 2.43 which was significant at the .05 level. There were no statistically significant differences between the boys or the boys plus the girls in the two groups.

The differences between the teachers' ratings of third grade girls in the two groups were further analyzed by the matched pair procedure. The girls were equated by pairs on the initial teacher ratings and compared on the final teacher ratings. The final teacher ratings of 115 pairs of equated third grade girls was again significantly higher in the control than in the experimental schools.

Conclusion

The conclusion which may be drawn from this study is that sixth grade pupils in the Higher Horizons Program for at least three years, do not exhibit better school attitudes than their counterparts in the control schools in terms of self-ratings and teachers' ratings.

At the third grade level, no differences in school attitudes were found between the total groups in the experimental and control schools. However, the control girls were rated somewhat higher than the experimental girls by their respective teachers.

Summary

The purpose of this study was to measure the effects of the Higher Horizons Program on the attitudes of pupils toward schools, others, self, and work habits.

The School Attitude and Adjustment Scale was administered twice to sixth grade pupils in eight experimental Higher Horizons and matched control elementary schools, during the 1962-63 school years, initially in November 1962 and finally in June 1963.

The sixth grade and third grade teachers also rated their pupils twice on a scale identical with that completed by the pupils.

The findings were as follows:

1. There were no statiscally significant differences between the sixth grade pupils with respect to self-ratings and teacher ratings of attitudes.

2. On the third grade level there were no significant differences in teacher ratings between the two groups of the boys as well as the boys and girls combined. However, the teachers in the control school rated their girls significantly higher than did the teachers in the experimental school.

It may be concluded that sixth grade pupils in the Program for at least three years did not exhibit school attitudes significantly different from those of their control counterparts based on self-ratings and teacher ratings.

However, after one year in the Program, third grade control girls were rated significantly higher than the experimental girls by their respective teachers. The boys as well as the total third grade groups did not exhibit significant differences in attitude towards school.

D. SELF-IMAGE OF SIXTH GRADE PUPILS IN THE HIGHER HORIZONS PROGRAM

Problem

One of the stated objectives of the Program is "to supply educational, occupational and cultural experiences which will raise the aspirations of children while simultaneously improving their self-image."[1] Further, it is asserted that "a major effort must be made to raise his self-concept. This is a necessary preliminary to improvement in motivation and in achievement."[2] The purpose of this study was to investigate the effects of the Higher Horizons Program on the self-image of participating pupils.

Two aspects of self-image were investigated, self-concept and ideal-concept. Self-concept is a pupil's perception of his present abilities and ideal-concept describes what a pupil wishes his abilities were, his aspirations.

The current investigation attempted to answer the following questions:

> "Do pupils in the Higher Horizons exhibit higher self-concepts than pupils in matched control schools as measured by a self-rating inventory?"
>
> "Do pupils in the Higher Horizons Program exhibit higher ideal-concepts than pupils in matched control schools as measured by a self-rating inventory?"

In this study, it was assumed that there were no differences in the self-concept and ideal-concept of third grade pupils in matched experimental and control schools at the time the Program was initiated in September, 1959. The two groups of schools were matched on Otis I.Q. and reading score at the third grade as well as ethnic composition and size of school.

Procedure

Population

The sample employed in this investigation consisted of sixth grade pupils selected from seven of the eight pairs of matched experimental Higher Horizons and control elementary schools. Included in this sample were sixth grade pupils who had been in their respective schools for at least three years, that is, since the school year beginning September, 1960.

There were in the seven Higher Horizons schools, 31 eligible sixth grade classes with a total pupil population of 851; from these, 675 pupils or 79.32 percent were used in the study. The seven control schools had 27 eligible sixth grade classes with 756 pupils; of these, data were available for 590 or about 78 per cent of the pupils.

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[1] Landers, J. "Higher Horizons Progress Report," Board of Education of the City of New York, January 1963, 11.

[2] Ibid, pg. 10.

Instrument

An instrument designed to secure estimates of the self-image of elementary school pupils was employed. It is based on pupil self-ratings and is called the "About Myself" Inventory.[1] A copy of the Scale is found in Appendix D.

This pupil self-rating Inventory consists of a list of 16 statements each describing an ability, such as, "to make decisions," "my music ability," "my appearance," and "my eagerness to learn." Pupils rate themselves twice for each ability on a five point scale. First, they rate themselves as to how they think they are at present with respect to each ability. This is the self-concept, an estimate of how pupils perceive their abilities now. Then, they estimate what they would like to be with respect to each ability. The latter is the ideal-concept, an estimate of what they wish their abilities were. On this rating scale, (1) is the lowest, (3) average, and (5) the highest estimate. The most favorable self-concept score is 80, the average is 48, and the least favorable is 16. The range of ideal-concept scores is also 16 to 80. Data on the reliability of self-concept and ideal-concept scores are found in Appendix D.

Procedure

The "About Myself" Scale was administered to sixth grade pupils in the seven pairs of experimental and control schools during the week of April 27, 1963.

Total self-concept and ideal-concept scores were computed separately for each pupil. Mean self-concept scores of boys, girls and total populations in the experimental and control groups were compared for significant differences. The ideal-concept scores were analyzed in the same way.

Findings

Self-Concept

Comparisons of mean total self-concept scores of sixth grade boys, girls, and total groups in experimental and control schools, are presented in Table 68.

Table 68

Comparisons of Mean Self-Concept Scores of Sixth Grade Pupils

	Experimental			Control			Diff.		
	N	Mean	S.D.	N	Mean	S.D.	(E-C)	t	P
Boys	315	52.85	8.44	279	53.93	8.76	-1.08	1.53	NS
Girls	360	50.70	8.94	311	51.97	8.84	-1.23	1.79	NS
Total	675	51.70	8.80	590	52.88	8.83	-1.18	2.37	.05

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[1] This instrument is an adaptation of the "Inventory of Student Self-Attitudes" developed by the Talented Youth Project at Columbia University.

Table 68 indicates that the differences in mean total self-concept scores between the boys and between the girls in the two groups were not statistically significant. However, when the boys and girls were combined, the difference between the experimental and control groups was statistically significant in favor of the controls, that is, the control group had a slightly higher self-concept than the experimental group.

Ideal-Concepts

The self-assessments of the ideal-concepts by sixth grade boys, girls and combined population in the experimental and control schools were compared. The results are summarized in Table 69.

Table 69

Comparisons of Mean Ideal-Concept Scores of Sixth Grade Pupils

	Experimental			Control			Diff.		
	N	Mean	S.D.	N	Mean	S.D.	(E-C)	t	P
Boys	315	67.96	8.81	279	67.36	9.05	+.40	.54	NS
Girls	360	68.46	8.34	311	68.55	9.30	-.09	.13	NS
Total	675	68.22	8.62	590	67.99	9.13	+.23	.46	NS

Table 69 shows no statistically differences in the mean ideal-concept score between the boys, the girls, or the boys and girls combined in the experimental and control schools.

Conclusions

From the data presented in this investigation, it may be concluded that sixth grade pupils in the Higher Horizons Program for at least three years do not exhibit higher self-concepts or ideal-concepts than their control counterparts.

Although the total control groups rated itself significantly higher in self-concepts, separate comparisons of the boys and the girls in the two groups did not show differences that were significant.

Summary

The purpose of this study was to determine the effects of the Higher Horizons Program on the self-image of pupils. The sample consisted of sixth grade pupils from seven pairs of matched Higher Horizons and control schools, 675 pupils from the former and 592 from the latter. Data were obtained by the "About Myself" Scale, which is a pupil self-rating Inventory containing a list describing sixteen abilities. Using a five point scale, pupils rated themselves twice for each ability, first, as they thought they were now and then as they wished they were. The estimate of present abilities is an indication of the self-concept; the expressed wish with respect to these abilities constitute the ideal-concept.

The following findings were revealed:

1. Sixth grade pupils in the control schools reported slightly higher mean self-concepts score than their experimental counterparts. This held true for the combined group but not for the separate comparison of the boys and the girls in the two groups.

2. There were no statistically significant differences in mean ideal-concepts score of the two groups. This held true for the girls and for the boys when analyzed separately.

The conclusion based on the findings in this study is:

> Pupils in the Higher Horizons Program, under the conditions of this study, do not exhibit higher self-image levels than pupils in matched control schools as measured by a self-rating inventory.

E. ATTENDANCE RATES OF PUPILS IN HIGHER HORIZONS AND CONTROL SCHOOLS

Problem

The purpose of this study was to determine the effect of the Higher Horizons Program on the school attendance rates of participating pupils.

The attendance of pupils influences as well as mirrors the efficiency of a school program. Poor attendance, in addition to reflecting pupil illness or adverse weather conditions, may indicate pupil maladjustment, dissatisfaction with curriculum offerings or poor school achievement.[1] Rates of attendance are important in evaluating the effectiveness of the Higher Horizons Program.

This study undertook the analysis of the changes in attendance rates in 16 Higher Horizons and 16 matched control elementary schools over a six year period from school year 1957-58 to 1962-63. Eight of these sixteen pairs are the experimental and control schools found in most of the substudies included in this report. The questions asked were:

> "Do elementary school pupils in Higher Horizons Program exhibit greater gains in attendance rates than those attained by pupils in control non-Higher Horizons schools?"

> "Do elementary school pupils in the Higher Horizons Program exhibit greater gains in attendance rates than those attained by the pupils attending the same school before the Higher Horizons Program?"

Design

Populations

The annual attendance rates for the entire school populations as well as that of the third, fourth, fifth and sixth grade classes in each of the 16 matched pairs of schools were analyzed. These data were secured for six consecutive years from September 1957 to June 1963. This period includes the two years previous to the initiation of the Higher Horizons Program 1957-58 to 1958-59, and the first four years since the start of the Program, 1959-60 to 1962-63.

The various groups used in this study were identified by the following system of notations:

The first number of the notation represents the school grade - 3, 4, 5 or 6. The next two numbers indicate the year in which the pupils were in that grade - 57, 58, 59, 60, 61 and 62. The letters H or C designate the Higher Horizons and the control groups respectively. The notation 3-59H, therefore, refers to the group of pupils who entered the third grade of a Higher Horizons school in September 1959; 3-59C refers to its control counterpart.

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[1] Sixty-Four Annual Report of Superintendent of Schools, City of New York, Statistical Section 1961-62, Bureau of Educational Program Research and Statistics, p 122.

Instruments

The attendance rates used in this study are based on data submitted to the Bureau of Educational Program Research and Statistics by each school for eight attendance reporting periods during a school year. Attendance is reported in two ways, average daily attendance, and per cent of attendance. Average daily attendance is calculated by dividing the aggregate pupil attendance in a given period by the number of school days in that period. Per cent of attendance is computed by dividing average daily attendance by average daily register during a given period. Since comparisons are being made among groups varying in size and over periods which differ in number of school days, rate measures or per cent of attendance were calculated and used to make comparisons in this study.

Procedure

Aggregate attendance and aggregate register data were collected for each Higher Horizons and control school from the attendance period reports. Annual attendance rates were computed by adding aggregate attendance for the eight periods and dividing by the total aggregate registers. These attendance rates were calculated for each of the six consecutive school years starting with September, 1957 and ending with June,1963. Attendance rates were calculated for each school and separately for the third, fourth, fifth and sixth grades.

The annual attendance rates of the entire pupil enrollment in each of the schools and that of the entire city were obtained from official records.

The possible effects of the Program on attendance rates of Higher Horizons pupils were determined from the following analyses:[1]

1. Comparison of Higher Horizons, controls and citywide populations for six years, 1957-58 to 1962-63. The analysis of the attendance rates of these three populations provide data on the schoolwide effects of the Program from the time it was introduced in 1959-60 to 1962-63.

2. Comparison of the 3-59H and 3-59C groups for the four years of the Program, 1959-60 to 1962-63. In this analysis, Higher Horizons and control groups were compared year by year for changes in attendance rates as they progressed from grade three in 1959-60, the first year of the Program, to grade six in 1962-63, the fourth year of the Program. This comparison provided data about the cumulative effect of the Program on groups in the same schools from the third to the sixth grade.

3. Comparison of successive groups of third grade classes in the same schools from 1957-58 to 1962-63. Attendance rates of 3-57 and 3-58 H and C groups and those of the 3-59, 3-60, 3-61 and 3-62 H and C groups provided data about the pre-and-post Higher Horizons effects for one year.

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[1] It should be remembered that in 1959-60, only third grade classes were in the Program; the following year, 1960-61, it included third and fourth grade groups. In 1961-62, third, fourth and fifth grade classes participated and by 1962-63, all grades from three to six were involved in the Program.

Results

Comparison of Attendance Rates for Higher Horizons, Controls and All Elementary Schools (Citywide) Populations from 1957-58 to 1962-63

The attendance rates by per cent, for 16 Higher Horizons, 16 matched control and all elementary school populations are summarized in Table 70.

Table 70

Attendance Rates by Percentages of Higher Horizons, Controls and All Elementary Schools for the Six-Year Period from 1957 to 1962

Groups	1957-58	1958-59	1959-60	1960-61	1961-62	1962-63
Higher Horizons	87.45	89.80	90.66	89.49	90.07	90.52
Controls	87.81	90.57	90.84	90.25	90.52	91.09
Citywide[1]	88.14	89.50	90.86	90.13	90.46	91.04

Table70 discloses the similarity in the trend of attendance rates in all three groups. It was lowest in 1957-58 and showed continuous improvement over the six year period studied except for a slight drop in 1960-61.

The average attendance rates of the Higher Horizons schools were consistently below that of the control schools every year from 1957-58 to 1962-63. The lowest rates for both groups were in 1957-58, 87.45 per cent for the former and 87.81 per cent for the latter. The highest attendance rate for the Higher Horizons group was 90.66 per cent in 1959-60, the first year of the Program. The control group showed its highest rate in 1962-63, 91.09 per cent.

Compared to citywide attendance rates, the Higher Horizons groups were higher for only one year, the control group for four years.

To determine the effects of the Program on attendance rates of the total school populations, differences in the average attendance in the two groups were compared before and after its introduction. These results are summarized in Table 71 . Citywide data were also included for reference purposes.

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[1] These data were obtained from the "Annual Reports of the Superintendent of Schools City of New York" Statistical Sections

Table 71

Attendance Rates and Their Differences Before and After the Introduction of the Program in Higher Horizons, Controls and Citywide Populations

Populations	Pre-Higher Horizons (1957-58 to 1958-59)	Post-Higher Horizons (1959-60 to 1962-63)	Differences (Post-Pre)
Higher Horizons	88.66	90.19	+1.53
Controls	89.31	90.67	+1.36
Citywide	88.81	90.62	+1.81

Table 71 reveals that average attendance rates for the Higher Horizons population for 1957-58 to 1958-59, the two year period before the introduction of the Program, was 88.66 per cent whereas the average for the four year period of the Program 1959-60 to 1962-63, was 90.19 per cent a gain of 1.53 per cent. The average attendance rate of the controls for the Pre-Higher Horizons period was 89.31 per cent as compared to its post-Higher Horizons rate of 90.67 per cent a gain of 1.36 per cent. Citywide rates were 1.81 per cent higher in the post as compared to the pre-Higher Horizons period. The Higher Horizons schools averaged 0.17 per cent greater gains in attendance rates than the controls over the four years of the Program.

Comparison of the 3-59H and the 3-59C Groups for 1959-60 to 1962-63

The cumulative effects of four years of the Program were analyzed by comparing the attendance rates of the 3-59H and 3-59C groups. These groups were in the third grade in 1959-60, in the fourth grade in 1960-61, in the fifth grade in 1961-62, and in the sixth grade in 1962-63. The results of this comparison are found in Table 72.

Table 72

Attendance Rates by Percentages of Higher Horizons and Control Groups From Grade Three through Six, 1959-60 to 1962-63

Grade	Third (1959-60)	Fourth (1960-61)	Fifth (1961-62)	Sixth (1962-63)	Difference (Sixth-Third)
3-59H	91.62	91.69	92.64	93.67	+2.05
3-59C	92.62	92.67	93.49	93.99	+1.37
Diff. (E-C)	-1.00	-0.98	-0.85	-0.32	+0.68

From Table 72 it is evident that the attendance rates of both the 3-59H and 3-59C groups improved steadily year by year from the time they were in third grade in 1959-60 to the time they were in sixth grade in 1962-63. The attendance rates in the Higher Horizons group of schools increased from 91.62 per cent in 1959-60 to 93.67 per cent in 1962-63; this was a gain of 2.05 per cent. The control schools, with a rate of 92.62 per cent in 1959-60, rose to 93.99 per cent in 1962-63, an increment of 1.37 per cent. In the first year of the Program, the attendance rate of the controls was 1.00 per cent higher than that of the Higher Horizons; by the fourth year in 1962-63, this difference was reduced to 0.32 per cent. Although the attendance rates of the 3-59H group were consistently below that of the 3-59C group from the third through the sixth grades, the experimental group showed greater improvement in attendance rates by 0.68 per cent.

Comparison of Successive Third Grade Groups Before and After the Start of the Program for each Year from 1957-58 to 1962-63.

The influence of the Program was also studied by comparing attendance rates of successive groups of third grade classes in experimental and control schools before and after its introduction. These data are given in Table 73.

Table 73

Attendance Rates by Percentages and Their Differences of Successive Third Grade Higher Horizons and Control Groups From 1957-58 to 1962-63

Groups	1957	1958	1959	1960	1961	1962
Higher Horizons	88.81	91.44	91.62	91.01	91.09	92.47
Controls	89.57	92.12	92.62	91.19	92.24	92.71

Table 73 reveals that the attendance rates of the third grade control groups were higher than those of the Higher Horizons schools every school year from 1957-58 to 1962-63. Both groups followed the same trend in attendance rates, from a low in 1957-58 to a high in 1962-63, with a slight dip in 1960-61.

To determine the effect of the Program on pupil attendance, the rates of third grade pupils in the same school before and after its introduction in 1959-60 were compared. The pre-Higher Horizons rates of attendance were obtained by averaging the rates for 1957-58 and 1958-59. The post-Higher Horizons rates are the averages for the years 1959-60 to 1962-63.

The comparison of the averages of the attendance rates and their differences for successive third grade groups before and after the introduction of the Program are presented in Table 74.

Table 74

Average Attendance Rates and Their Differences of Successive Third Grade Groups Before and After the Introduction of the Program

Groups	Pre-Higher Horizons (1957-58 to 1958-59)	Post-Higher Horizons (1959-60 to 1962-63)	Differences (Post-Pre)
Higher Horizons	90.15	91.50	+1.35
Controls	90.94	92.31	+1.37

As reported in Table 74 the average attendance rates for the two year pre-Higher Horizons period were 90.15 per cent for the Higher Horizons and 90.94 per cent for the control groups. The average attendance rate of the two groups for the four years of the Program, 1959-60 to 1962-63, were 91.50 per cent for the former and 92.31 per cent for the latter. This represented a gain of 1.35 per cent for the Higher Horizons as compared to 1.37 per cent for the controls, a difference of 0.02 per cent. It would appear that the gains in attendance rates of the two groups of successive third grade classes were about the same.

Conclusions

An analysis of the attendance data for sixteen pairs of experimental and matched control schools for six consecutive years from 1957-58 to 1962-63, points to the following conclusions:

1. Total school populations in the Higher Horizons Program exhibited slightly higher gains in attendance rates than their control counterparts.

2. Classes of pupils in the Higher Horizons Program from the third grade in 1959-60 to the sixth grade in 1962-63 for four consecutive years achieved slightly greater improvement in attendance rates than classes of pupils in control schools over the same period of time.

3. Successive groups of third grade classes in the Higher Horizons Program for one year showed attendance rates which were not different from those of groups of third grade pupils attending the same school before the introduction of the Program.

Summary

This study attempted to determine the effect of the Higher Horizons Program on the attendance rates of participating pupils. Attendance data for 16 representative Higher Horizons and 16 matched control schools for six consecutive school years 1957-58 to 1962-63 were collected. Annual rates of attendance were calculated for the total populations and also for the third, fourth, fifth and sixth grades groups in each of these schools.

The following are the major findings:

1. The attendance rates of the total pupil populations in the Higher Horizons and control schools followed the upward trend exhibited by all the schools, citywide.
2. The control school populations showed consistently higher attendance rates than the Higher Horizons groups. However, after the inception of the Program, the Higher Horizons populations made slightly greater gains than the control populations.
3. The Higher Horizons groups which entered the third grade in 1959-60, the first year of the Program, (3-59H) and were promoted to the fourth, fifth and sixth grades in the subsequent years, made slightly greater gains in attendance rates than their control counterparts (3-59C). These results probably indicate the cumulative effect of the Program on attendance rates over a four year period.
4. Successive groups of third grade classes in the Higher Horizons Program for one year achieved attendance rates which were no different from those of third grade pupils attending the same school before the introduction of the Program.

The conclusions which may be drawn from these findings are:

Elementary school pupils in Higher Horizons Program for four years exhibit slightly greater gains in attendance rates than pupils in non-Higher Horizons control schools.

F. TRUANCY AND SUSPENSIONS RATES IN HIGHER HORIZONS AND CONTROL SCHOOLS

Problem

The purpose of this study was to determine the possible effects of the Higher Horizons Program on the attitude of participating pupils towards school as reflected in the rates of truancy and suspensions. The basic question being asked is "Do pupils in Higher Horizons elementary schools exhibit lower rates of truancy and suspensions than their control counterparts?"

It was assumed that the Higher Horizons Program gave pupils a more positive attitude towards school which resulted in lower rates of truancy and suspensions as compared to that occurring among comparable pupils in non-Higher Horizons schools.

Design

Population

The data analyzed in this study were limited to the number of "truancy referrals" and "suspensions hearing before the assistant superintendent" among pupils in eight experimental and eight control schools for the period from 1958-59 to 1962-63.

Definition of Terms

1. Truancy

For the purpose of this study truancy was defined operationally in terms of the following regulations, established by the Superintendent of Schools: "On the fifth day of absence, if a satisfactory explanation has not been made, the absence shall be reported to the Bureau of Attendance. In case of unexplained absence of a pupil known to be a truant, or where truancy or illegal detention of such pupil is suspected, immediate notification shall be given to the Bureau of Attendance on the day on which such absence occurs."[1]

A school's initial report of an absentee to the Bureau of Attendance is made on "Attendance Officers' Investigation and Report" (Form 407). Any and all subsequent reports on the same child in the same school are made on "Attendance Officers' Re-Investigation and Report" (Form 408). Each interrupted absence is treated as a new absence and a report made accordingly to the Bureau of Attendance.

The data obtained from the Bureau of Attendance regarding truancy described the number of absentee investigations using Forms 407 and 408. These data did not distinguish between legal and illegal absences or the number of multiple absent forms for the same pupils.

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[1] Manual of Attendance Procedure for Principals, Board of Education, City of New York, Bureau of Attendance, 1957, pg 34.

2. Suspensions

Suspension is defined as temporary cessation of a pupil's public school attendance as directed by an assistant superintendent.[1] The authority to suspend is delegated by the Superintendent of Schools to the local assistant superintendent.

Suspensions are usually occasioned by persistence of misbehavior and failure of previous adjustive efforts made by the schools. The principal should not permit the continued attendance of any pupil whose misconduct seriously interferes with his education and/or that of other pupils or who is abusive, repeatedly insubordinate or violent.[2] Suspensions are also possible in cases where a pupil's physical or mental condition endangers the health, safety or morals of other minors or when the pupil is believed to be feeble-minded to the extent that he cannot profit from instruction.

The procedures prescribed in cases of suspended pupils require a hearing before the assistant superintendent in the school district.

The data compiled by the Bureau of Attendance and by the school districts describe the total number of suspension hearings initiated by school principals, ratified and disposed of by the assistant superintendent. No distinctions were made among the various categories of suspensions nor the final disposition based on the hearings.

Procedure

The data were obtained from two sources. The number of 407 and 408 truancy referrals were supplied by the Bureau of Attendance for each school and for the years covered in this study. The number of formal suspension hearings also came from the Bureau of Attendance and from the offices of the district superintendent in which the schools were located.

Truancy rates were calculated as to the number per thousand pupils in the eight experimental as compared to the eight control schools for each school year from 1958-59 to 1962-63.

Total school populations as they appeared in the Seventh Period Attendance Reports were used in the calculations of truancy rates since these are employed by the Bureau of Attendance.

Suspension hearing rates per thousand pupils in the two groups of schools were also calculated for the same period of time using the data obtained from the assistant superintendents of the districts in which these schools were located.

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[1] Manual of Attendance procedures for Principals, Board of Education, City of New York, Bureau of Attendance, 1957, Pg.51

[2] Suspension Procedures. Special Circular No. 48, 1960-61. Board of Education of City of New York, Office of Superintendent of Schools. February 1, 1961.

Findings

Truancy

The number of truancy referrals per thousand pupils in the eight experimental and eight control total school pupulation from 1958-59 to 1962-63 as well as the average number of truancy referrals for the four year period of the Program from 1959 to 1962 are presented in Table 75.

Table 75 shows that the number of truancy referrals was higher in the control than in the experimental school populations every year from 1958-59 to 1962-63. Also, there was a general trend of increased truancy referral over this period of time. The greatest difference was in 1961-62, 65.93 per thousand, or about 6.59 per cent higher in the control school. The disparity between the two groups was least in 1960-61, 2.79 per thousand pupils or 0.28 per cent.

In 1959-60, the first year of the Program, the number of referrals were 12.50 per thousand higher in the control schools. By 1962-63, the fourth year of the Program, the rate was 25.52; the average over the four years, 1959-62, was 26.32.

Table 75

Number of Truancy Referrals Per Thousand Pupils in Experimental and Control School Population from 1958-59 to 1962-63

School Year	1958-59	1959-60	1960-61	1961-62	1962-63	AVERAGE 1959-1962
Exp.	196.43	231.93	251.21	268.55	260.76	252.33
Cont.	252.24	244.43	254.00	334.48	286.28	278.65
Dif. (E-C)	- 55.81	- 12.50	- 2.79	- 65.93	- 25.52	- 26.32

Suspensions

The numbers of suspension hearings per thousand pupils in the experimental and control schools for 1958-59 to 1962-63 are summarized in Table 76.

Table 76

Number of Suspension Hearings Per Thousand Pupils in Experimental and Control School Populations

School Year	1958-59	1959-60	1960-61	1961-62	1962-63	AVERAGE 1959-62
Exp.	6.82	22.77	16.50	24.66	18.29	20.58
Cont.	9.43	12.83	37.58	19.74	23.88	23.40
Dif. (E-C)	- 2.61	+ 9.94	- 21.08	+ 4.92	- 5.59	- 2.82

Table 76 reveals that differences between the two groups in the number of suspension hearings per thousand pupils fluctuated considerably from year to year and indicated no particular trend.

For two of the four years of the Program, there were more suspensions in the experimental schools; 9.94 in 1959-60 and 4.92 in 1961-62. During the other two years, the control schools had more suspensions; 21.08 in 1960-61 and 5.59 in 1962-63. Over the four years of the Program, the number of suspensions averaged slightly higher in the control schools, 2.82. This difference of rate was about the same as that for 1958-59 the year before the introduction of the Program, when the difference in rate was 2.61 per thousand.

Conclusions

The conclusions which may be drawn are: The number of truancy referrals were consistently higher in the control than in the experimental schools from 1958-59 to 1962-63. However no consistent trend in the number of suspension hearings were discernible in the two groups of schools over the same period of time.

Summary

This study investigated the possible effects of the Higher Horizons Program on the attitude of pupils toward school as reflected in truancy and suspension rates. The population studied were pupils in eight experimental and eight control schools for the period from 1958-59 to 1962-63. The data for truancy were obtained from the Bureau of Attendance and information about suspension from the assistant superintendents of the districts in which the schools were located. The number of truancy referrals per thousand pupils in the two groups were compared. The number of formal suspension hearings per thousand pupils before the district assistant superintendent in the experimental and control groups were also compared.

It may be concluded that, was compared to those for the control both before and after the introduction of the Program, the truancy rates tended to be consistently lower in the experimental schools. There was no consistent patterns in the suspension rates for the two groups of schools over the period of this study, 1958-59 to 1962-63.

CHAPTER VII

STAFF EVALUATION OF HIGHER HORIZONS PROGRAM

A. EVALUATION OF THE HIGHER HORIZONS PROGRAM BY PRINCIPALS

Problem

A very important aspect in the evaluation of the Higher Horizons Program are the reactions of the professional staff which has been directly involved in its administration, organization and operations. The purpose of this investigation was to measure the degree to which specifically stated goals and objectives of the Program were being realized in terms of principals' ratings. The specific goals emphasized in the Higher Horizons Program are concerned with the following areas: guidance, teacher training, cultural experiences, curriculum enrichment and adaptation, remedial services, parent and community education, inspiration, and evaluation and record keeping.[1]

Design

Population

The data were secured from the principals of all fifty-two elementary schools participating in the Higher Horizons Program. The principals completed a questionnaire in June 1963, the end of the fourth year of the Program.

Instrument

The effectiveness of the Program was assessed by a questionnaire composed of statements, describing the specific goals of Higher Horizons. Twenty-three of these statements of goals were selected; seven concerned with guidance, five with teacher training, three with cultural experience, two with curriculum enrichment, one with remedial services, four with parent education and one with inspiration. A copy of the Principals' Questionnaire appears in Appendix E.

The principals rated each item of the questionnaire on a scale which described the degree to which the Program had been effective in fulfilling the goal described by the statement. An "0" rating indicated adverse effect, "1" no effect, "2" some positive effect and "3" outstanding positive effect. Each principal was also asked to indicate, with a brief explanation, if he was in favor of (a) continuing (b) discontinuing or (c) modifying the Program. In addition, each respondent was asked to state how many years he or she had been in the school as principal.

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[1] Landers, J. Higher Horizons: Progress Report, Board of Education of the City of New York, January 1963, 11-13

Procedure

The data provided by the questionnaire fell into three categories; (a) identifying information, (b) ratings of each questionnaire item on the 0 to 3 scale, and (c) judgements concerning the continuation of the Program.

The median number of years of service as principal in the Higher Horizons school was calculated. The total score for each questionnaire was obtained by summing the ratings for each of the 23 items. Mean total score on the items as well as mean score for each item were obtained. The questionnaire items were placed in rank order based on item mean scores.

The relationship between years of service and total score was determined by rank order correlation technique. The responses of the principals as to the future of the Program and the reason offered were also analyzed.

Results

Years of Service as Principal

The questionnaire responses revealed that the median number of years of service was 5.00, with a range from 3 months to 18 years. About 50 per cent of the principals of the Higher Horizons elementary schools had been serving for no more than 4 years. This means that only half the present principals were in their elementary schools before the introduction of the Higher Horizons Program in September 1959. Also, seven or 13.46 per cent were serving as principals one year or less.

Total Scores on Questionnaire

The median total rating for the 23 items of the questionnaire was 58 with a range of 66 to 39; the mean was 55.0. The lowest possible score was 0, and the highest 69. It was found that on 47 or 90 per cent of the questionnaires the item ratings averaged "2", that is, had "some positive effect." Only 5 or 10 per cent of the questionnaires had a total score of less than 46, an average of less than two.

Total Scores and Years of Service as Principal

A correlation between the number of years as principal and total score on the questionnaire was computed using the rank order technique. The rho was -.04, indicating no relationship between these two variables.

Principals' Judgments on Continuation of Program

An analyses of the principals' judgments about the future of the Program showed that 44 favored continuing, 4 modifying, and 4 continuing with modifications. Significantly, none recommended that the Program be discontinued.

It was also found that the median number of years of services of the 44 principals who favored continuing the program was 5.00; the median of those favoring modifying or continuing with modification was 4.50.

The reasons for the choices made by the principals were analyzed. Of the 44 favoring continuation, 4 failed to offer any explanation. The most frequently mentioned reason reported by the forty principals were the extra services which the Program had made available. About two thirds of them referred to the additional staff for remedial work, guidance and teacher training. About one fourth felt that the Program had improved teacher morale and had raised the standards of the school. The eight principals who thought that the Program should be modified expressed the need for additicnal personnel, smaller classes and the need for "greater flexibility and latitude in determining how best to use the personnel provided." Two felt that the Program should be extended to all grades including the kindergarten.

Analysis by Items

The means of the ratings for each of the 23 questionnaire items were determined. The following scale was used in judging the extent to which the Program was fulfilling the stated objective:

> 0 - adverse effect; 1 - no effect, 2 - some positive effect, and 3 - outstanding positive effect.

The results indicated that the mean item ratings ranged from 2.81 to 2.00; an average of 2.39 was found for all the items. No item was rated "0" - adverse effect or "1" - no effect. All items were judged "3" - some positive effect or "4" - outstanding positive effect.

The items were ranked according to magnitude of mean item score: the highest being "1" and the lowest "23". The ranked items and the mean item score are given in Table 77.

Table 77

Item Rank Order of Principals' Ratings of Effectiveness of Objectives of Higher Horizons Program

Rank	Mean Item Score	Objectives - Items
1	2.81	Cultural experiences in the HH Program provided opportunities not usually provided by the home or community
2	2.69	Cultural experiences in the HH Program raised childrens' cultural sights
3	2.62	The HH curriculum was enriched in academic and cultural areas
4	2.58	The HH Program gave parents a better understanding of the community resources and educational opportunities available to them and to their children
5,5	2.52	Remedial services for children with good academic potential were supplied in reading and also in other areas, in the HH Program

Table 77 (Cont'd)

Rank	Mean Item Score	Objectives - Items
5.5	2.52	Cultural experiences in the HH Program raised the aspirations of children and improved their self-image
7	2.48	The HH curriculum was adapted to utilize existing school facilities such as libraries
8	2.44	The HH Program enlisted the assistance of community agencies in supplying necessary services
9	2.42	The HH Program helped parents understand the value of school in terms of their hopes for their children
10	2.40	HH guidance practices raised levels of aspiration of the children
11	2.38	HH teacher training procedures stimulated teacher participation in the Program
12	2.37	The HH Program aided parents in providing an atmoshere of encouragement and stimulation for their children
13	2.35	The HH Program gave to teachers and parents faith in children, and gave to children faith in themselves
15	2.33	HH guidance practices identified abilities, interests and needs of children
15	2.33	The HH guidance program educated parents in guidance objectives and goals
15	2.33	HH teacher training procedures helped teachers set goals for children which are based on potential rather than on past achievement
17	2.31	HH teacher training procedures helped teachers identify students with academic ability
18	2.27	HH teacher training procedures helped teachers provide methods for helping children realize their academic potential
19	2.25	HH teacher training procedures defined the role of the classroom teacher in the Program
20	2.23	The HH guidance program assisted with in-servide training of teachers
21	2.21	The HH guidance program consisted of intensive educational and vocational individual and group counseling sessions
22	2.19	HH guidance practices stimulated children to attain levels commensurate with their ability
23	2.00	The HH guidance program developed new tools, techniques, procedures and materials

The item ranked "1" with a mean score of 2.81 was concerned with "cultural experiences provided by the Program". The item ranked "23" with a mean score of 2.00 was the development "of new tools, techniques, procedures and materials" by the Program.

The items in the top half of the distribution included all four of the "cultural", three of the four "parent and community", the two "cultural enrichment", the one "remedial" and one of the seven "guidance" goals. Items ranked 12 through 23, consisted largely of "guidance" and "teacher training" goals.

The percentages of principals assigning each scale value for each objective are given in Table 78.

Table 78

Percentages of Principals Assigning Each Scale Value for Each of the Twenty-three Objectives[1]

Rank Order of Item	Objective	"1" No Effect	"2" Some Positive Effect	"3" Outstanding Positive Effect
1	Cultural	0	19.23	80.77
2	Cultural	0	30.77	69.23
3	Cultural Enrichment	1.92	34.61	63.46
4	Parent & Comm. Educ.	1.92	38.46	59.62
5.5	Remedial	0	48.08	51.92
5.5	Cultural	1.92	44.23	53.85
7	Cultural Enrichment	9.62	32.69	57.69
8	Parent & Comm. Educ.	5.77	44.23	50.00
9	Parent & Comm. Educ.	1.92	55.77	42.31
10	Guidance	1.92	55.77	42.31
11	Teacher Training	5.77	50.00	44.23
12	Parent & Comm. Educ.	0	63.46	36.54
13	Inspiration	0	65.38	34.62
15	Guidance	1.92	63.46	34.62
15	Guidance	3.85	59.62	36.54
15	Teacher Training	0	67.31	32.69
17	Teacher Training	5.77	57.69	36.54
18	Teacher Training	1.92	69.23	36.54
19	Teacher Training	3.85	67.31	28.85
20	Guidance	9.62	57.69	32.69
21	Guidance	7.69	60.46	28.85
22	Guidance	1.92	76.92	22.15
23	Guidance	19.23	60.54	19.23

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[1] There were no "0" adverse effect ratings for any item

Table 78 indicated that at least half the principals rated the first eight aims of the Program-3 - "outstanding positive effects" and the next 15 goals in rank order were rated 2 - "some positive effect." The last item in rank order was rated 1 - "no effect" by 19.23 per cent of the principals.

Conclusions

The principals of Higher Horizons elementary schools were of the opinion that the Program had some positive effects and that it had, to some extent, realized all of the stated objectives. They were unanimous in wanting the Program to be continued primarily because it offered extra remedial and guidance services. Some principals suggested the need for expanded service, smaller class size and greater flexibility in administering the Program at the school level. The objectives realized most fully were in the cultural and remedial areas; the least effective were in guidance and teacher training goals.

Summary

The purpose of this study was to determine effectiveness of the Higher Horizons Program from the point of view of the principals of the participating elementary schools. A questionnaire was completed by all 52 principals of Higher Horizons elementary schools in which they rated the degree to which 23 listed goals of the Program had been realized. They also indicate how they felt about the continuation of the Program.

The findings were as follows:

1. The median length of time a principal had been serving was 5.00 years; half of them in their schools for 4 years or less.

2. About 90 per cent of the principals rated all items as having "some positive effect."

3. There was no relationship between number of years as principal and total rating of the Program.

4. The overwhelming majority of the principals favored the continuation of the Program primarily because of extra services made available for remedial work, guidance and teacher training. Few principals suggesting some modification, mentioned the need for expanded services, smaller classes and greater flexibility in administering the Program at the school level.

5. The specific aims realized to the greatest extent were those concerned with cultural and remedial goals; the least effective were those relating to guidance and teacher training goals.

B. EVALUATION OF THE HIGHER HORIZONS PROGRAM BY TEACHERS

Problem

The assessment of the Higher Horizons Program by the principals of all 52 Higher Horizons elementary schools have been summarized and are presented in the previous report. The present study is concerned with the appraisal of the Program by the teachers comprising the professional staff of sixteen of these elementary schools.

The problem under investigation was to determine teachers' estimates of the effectiveness of the Higher Horizons Program. Teachers' ratings were used to determine the degree to which some of the major goals and procedures were realized by the Program.

Design

Population

The data were obtained from sixteen schools; four in each of the following boroughs: Manhattan, Bronx, Brooklyn and Queens. The total professional staff in these sixteen schools consisted of 492 teachers, exclusive of principals, assistant principals and school secretaries. Of these 357 were classroom teachers of grade three to six, and 135 non-classroom personnel such as program teachers, remedial teachers, guidance counselors and others.

Questionnaires were distributed in June 1963 to the professional staff in each of the sixteen schools exclusive of kindergarten, first and second grade teachers. Completed questionnaires were returned by 386 teachers, 78.46 per cent of the total staff. Of these 314 were from classroom teachers and 72 from non-classroom personnel.

Instrument

The data for assessing the effectiveness of the Program were collected on a two page questionnaire. The first page is descriptive data dealing with the teaching experiences of the respondent. The second page is composed of 25 statements representing some of the major goals and procedures of the Program similar to the questionnaire employed in the study of the principals' evaluation of the Program. There are eleven statements concerned with pupils, seven with parents and seven with teachers. A copy of the Teachers' Questionnaire and the directives for completing it appear in Appendix F.

Each statement of the Questionnaire is evaluated on a four point scale describing the degree to which the Program has been effective for most of the pupils, parents and teachers involved. On this rating scale "0" indicates adverse effect, "1" no effect, "2" some positive effect and "3" outstanding positive effect.

In addition, the staff member was asked to indicate with a brief explanation whether she was in favor of the Program being (a) continued, (b) discontinued, or (c) modified.

Procedure

The data which were obtained anonymously by the Questionnaire were (a) background information related to teaching experiences, and (b) assessments of the Program. The background information provided descriptive data such as the number of years on duty in the school, and number of years as a classroom teacher in the school, comparative numbers of classroom and nonclassroom personnel, and total number of years of teaching experience.

The Program was assessed in terms of its overall effectiveness and also the degree to which each stated objective was fulfilled. The overall appraisal by each teacher was expressed by a mean score calculated by summing the ratings and dividing by the number of items rated by the teacher. The average of the mean scores for all respondents was determined. Average of mean scores were also obtained for each of the sixteen schools.

The extent to which each of the 25 stated objectives of the Program was realized was expressed in terms of the item scale score calculated by summing the ratings for that item and dividing by the number of raters. The items were placed in rank order for interpretation.

Relationships were determined between the overall teacher rating and factors such as, years in the schools, years of teaching experience and assignment in the school. Finally, the choices of the teachers and their reasons regarding the future of the Program were analyzed.

Results

Background Data

The responses of 386 staff members to the question, "Were you on duty in this school during the school years 1958-59, 1959-60, 1960-61, 1961-62, and 1962-63?" indicated that about one third of the staff members had been on duty for five years, that is, since September 1958. About half the staff had been serving no more than three years, and one fourth, one year or less.

About 85 per cent of the respondents said that they expected to be in the same school during the next school year, 1963-64; the remainder either said "no" or failed to answer this question.

The responses to the question, "Did you teach Higher Horizons classes or groups of Higher Horizons pupils in 1959-60, 1960-61, 1961-62, and 1962-63?" revealed that 314 or 80 per cent of the respondents were classroom teachers. Of these, 15 per cent had been in the classroom for four years, 18 per cent for three years, 25 per cent for two years and 41 per cent for one year. Two out of every three teachers responding to the Questionnaire had been in the classroom for two years or less.

The other 20 per cent, 72 staff members, were assigned to duties other than in the classroom. Of these, 69 reported the following special assignments: 26 were program teachers, 13 corrective reading teachers, 11 guidance counselors, 6 reading improvement teachers, 5 library teachers, and 8 on miscellaneous assignments such as, teacher training, science coordinator, and the like.

With respect to total number of years of teaching experience, about 30 per cent of all respondents indicated that they had been teachers less than three years, about 22 per cent, three to five years, 24 per cent, six to ten years, and 24 per cent, more than ten years. About half the staff members had been in teaching five years or less.

It was also found that 41 or 60 per cent of the non-classroom personnel had been in the system more than ten years. In general, almost half of the most experienced personnel were non-teaching staff members.

Assessment of the Program

1. Overall Evaluation

A survey of the number of items rated by teachers disclosed that 298 out of 386 Questionnaires returned were complete, that is, about eight out of ten teachers rated all 25 objectives of the Program. There were 47 respondents who answered all but two items. Thus, on almost 90 per cent of the Questionnaires, practically all items were assessed. Only nine failed to rate at least half the objectives and these Questionnaires were therefore excluded from the analysis leaving 377 for analysis.

The overall estimates of the effectiveness of the Program were obtained by averaging the mean scores of all respondents. The mean score of each respondent was calculated by summing the ratings of all the Questionnaire items and dividing by the number of items rated. Mean scores are therefore expressed by the numerical values found on the four point rating scale, 0, 1, 2, and 3.

a. Averages of Mean Scores

The average overall ratings for 377 staff members in sixteen elementary schools was 1.86 with a range from 0.46 to 3.00, indicating that in general, teachers thought the Program tended to have "some positive effects."

The distribution of the mean total scores of the respondents using the four rating scale values as intervals is found in Table 79.

Table 79

Distribution of Mean Scores by Rating Scale Intervals of 377 Teachers Evaluating the Higher Horizons Program

Score Intervals	0.0 - 0.49	0.50-1.49	1.50 - 2.49	2.50 - 3.00
Rating Scale Score	0	1	2	3
Number of Teachers	2	81	254	40
Percentages	0.53	21.49	67.37	10.61

From Table 79 , it may be seen that two out of every three teachers rated the Program in the 1.50 to 2.49 range which is equivalent to "2" on the rating scale, that is, two thirds of the teachers said the Program had "some positive effect." One out of five thought the Program had "no effect" and one out of ten judged it to have "outstanding positive effect." Less than one per cent viewed the Program as having an "adverse effect."

2. School Ratings of Program

In order to determine how the teachers in each of the sixteen participating schools assessed the Program, an analysis of the averages of the mean scores of the teachers in each school was undertaken. These school averages are given in Table 80.

Table 80

Average Ratings of Teachers' Evaluation of Higher Horizons Program in Sixteen Elementary Schools

School	Number	Average Rating
A	27	2.00
B	16	1.99
C	26	1.97
D	32	1.97
E	19	1.96
F	21	1.93
G	35	1.91
H	18	1.90
I	20	1.90
J	23	1.87
K	26	1.84
L	29	1.79
M	23	1.70
N	26	1.67
O	20	1.66
P	16	1.63

It was interesting to note in Table 80 that the school rating scores ranged from 2.00 to 1.63, all within the "some positive effect" interval on the rating scale. In general, the teachers in every one of the sixteen schools felt that the Program was making some positive contribution.

3. Effects of Teaching Background on Estimates of Program

A comparison of number of years in the school and average ratings of the Program showed that the scores ranged from 1.92 for those in the school four years to 1.82 for those in the school three years. An analysis of the difference in averages between these two groups proved that it was not statistically significant. When the 1958 and 1959 groups were combined and their pooled averages compared to that of the combined 1961 and 1962 groups, the differences were again not statistically significant. It appeared therefore that the number of years in the school did not influence the teacher rating of the Program. A comparison of total number of years of teaching and average rating of the Program showed that the most experienced teachers with "more than 10 years" of teaching rated the Program highest, 1.95, whereas the least experienced teachers with "less than 3 years" in the system rated it lowest, 1.82. However, this difference was not statistically significant. Again the average of the combined "less than 3 years" and " 3 to 5 years" groups was not significantly different from the combined "6 to 10 years" and the "more than 10 years" groups. These data indicated that the number of years as a teacher was not a significant factor in the overall estimates of the Program.

It seemed possible that the estimate of the effectiveness of the Program might be related to the school assignment of the teacher, that is, whether she was in the classroom or assigned to non-classroom activities. The results of this analysis are summarized in Table 81.

Table 81

Comparison of Average Ratings by Classroom and Non-Classroom Staff

	Number	Average Rating	S.D.	Diff. (c-nc)	t	P
Classroom Staff	312	1.81	0.47			
Non-Classroom Staff	65	2.14	0.45	-0.33	5.16	.01

The data in Table 81 revealed that the average rating of the Program by non-classroom personnel was significantly higher than that of the classroom staff members.

Additional analysis showed that irrespective of the number of years in school and total teaching experience, non-classroom teachers rated the Program significantly higher than their classroom colleagues. Apparently, staff estimates of the Program were influenced by school assignment, non-classroom personnel regarded the Program significantly more effective than classroom teachers.

4. Evaluation of Specific Objectives

The relative effectiveness of the Program in fulfilling each of the 25 objectives as stated in the Questionnaire was also determined from its average item scale score. This was computed by summing the ratings for an item and dividing by the number of teachers who rated it. The results of this analysis for all teachers, both classroom and non-classroom personnel, are presented in Table 82 . The statements are arranged in rank order from the highest average item scale score to the lowest.

Table 82

Rank Order of Effectiveness of Twenty-five Goals of the Higher Horizons Program Based on Average Item Scale Scores of All Teachers

Rank Order	Average Item Scale Score	Objectives
1	2.22	Improved students' interest in books, art, music, theatre, museums, etc.?
2	2.11	Assisted teachers in using cultural activities for curriculum purposes?
3.5	2.10	Provided teachers with additional guidance, remedial and counseling services?
3.5	2.10	Identified students with talents other than academic?
5.5	2.09	Helped teachers in adapting and enriching the curriculum?
6.6	1.96	Improved parents'interest in the schools?
8.5	1.90	Improved students' attitudes to learning?
8.5	1.90	Increased parents' cooperation with the school?
8.5	1.90	Increased parents' understanding of educational and career opportunities?
8.5	1.90	Aided teachers because the Program was planned and executed cooperatively?
11.5	1.89	Identified students with academic potential?
11.5	1.89	Helped teachers identify potentially able students?
14	1.85	Raised parents' aspirations for their childrens' education?
14	1.85	Raised teachers' educational goals for these students?
14	1.85	Increased number of parent-counselor interviews?
16	1.84	Improved students'scholastic achievement?
17	1.81	Provided teachers with additional information about students' background?
18	1.79	Raised students' educational goals to high school completion?
19	1.76	Raised parents' goals for their childrens' vocational plans?
20	1.71	Raised students' vocational aspirations?
21	1.63	Increased number of parent-teacher interviews?
22.5	1.58	Improved students' relations with their peer group and with their teacher?
22.5	1.58	Raised students' educational goals beyond high school completion?
24	1.55	Improved students' study habits?
25	1.37	Improved students' classroom behavior?

It may be noted from Table 82 that the Program was most effective in realizing its goal for cultural enrichment. For example, the objective with the highest item scale score of 2.22 was "improved student interests in books, art, music, theatre, museums, etc." The goal ranked second with a score of 2.11 was "assisted teachers in using cultural activities for curriculum purposes." The next three scores 2.10, 2.10, and 2.09, were for "additional services" for teachers, "identification of non-academic talents" of pupils, and helping teachers in "adapting and enriching curriculum" respectively.

The objective given the lowest rank, 25th, with a score of 1.37 was "improved student classroom behavior." Teachers felt that the Program had "no effect" on the classroom behavior of pupils. They ranked "improved student study habits" as 24th with a score of 1.55; "raised student educational goals beyond high school completion" and "improved student relations with their peers and their teachers" were next in rank with a score of 1.58.

The three objectives whose rank order placed them at the median position were: "raised parents' aspirations for their childrens' education," "raised teachers educational goals for these students," and "increased number of parent-counselor interviews."

The percentages of teachers assigning each scale value to each objective are summarized in Table 83.

Table 83

Percentages of Teachers Assigning Each Scale Value for Each of the Twenty-five Objectives

Average Item Scale Score	Objective	Rating Scale Scores By Percentages 0	1	2	3
2.22	Students – cultural interests	0.27	9.65	53.62	34.46
2.11	Teacher – culture and curriculum	1.34	18.18	46.79	33.69
2.10	Student non-academic talents	0.54	14.47	58.71	26.27
2.10	Teacher – extra services	3.15	18.81	47.31	31.72
2.09	Teacher – curriculum enrichment	2.42	17.20	48.66	31.72
1.96	Parent – interest in school	1.07	23.47	47.52	23.20
1.90	Student – attitude towards learning	1.61	22.25	59.52	16.62
1.90	Parents – cooperation with school	0.80	25.80	55.05	18.35
1.90	Teachers – program planning	4.72	22.50	49.44	23.33
1.90	Parent – understanding educ. opportunities	1.08	25.75	53.93	19.24
1.89	Student – academic potential	1.36	27.10	51.76	19.78
1.89	Teacher – identify able students	2.15	29.57	45.43	22.85
1.85	Parent – aspiration for childrens' educ.	0.27	29.12	54.67	15.93
1.85	Parent – counselor interviews	1.44	28.24	50.43	19.88
1.85	Teacher – educational goals for students	2.17	30.08	46.61	21.14
1.84	Student – improved school work	1.87	21.82	65.33	10.40
1.81	Teacher – background inform. on students	1.36	32.07	48.91	17.66
1.79	Student – educ. goals to high school	0.55	31.13	55.10	13.22
1.76	Parents – vocational goals for children	0.86	32.76	52.01	14.37
1.71	Student – vocational aspiration	1.13	36.90	50.42	11.55
1.63	Parent – teacher interviews	2.44	43.90	36.67	15.99
1.58	Student – relation with peer group	2.43	43.94	45.28	8.36
1.58	Student – educ. goals beyond high school	1.16	45.08	45.95	7.80
1.55	Student – study habits	2.41	44.92	47.08	5.61
1.37	Student – classroom behavior	7.84	52.97	33.24	5.95

Table 83 indicates that the top ranking objective received the highest percentage of "3" ratings, that is, 34.46 per cent of the teachers scored "improvement in students' cultural interests" as the outstanding positive effect of the Program. The highest percentage of "2" ratings, 65.33 per cent went to the objective ranked 14th, "improved students' scholastic achievement." About half of the objectives, twelve of the twenty-five, were rated "2" by 50 per cent or more of the teachers. The objective which was lowest in rank order, scored the largest percentages of "1" and "0" ratings, 52.97 per cent and 7.84 per cent respectively, indicating that the Program was least effective in "improving students' classroom behavior."

5. Teacher Decision Regarding Future of the Program

Questionnaire responses concerning the future of the Program were obtained from 373 staff members. Of these 242 or 64.88 per cent favored the Program being "continued," 102 or 27.35 per cent checked "modified," and 29 or 7.77 per cent wanted the Program "discontinued." More than nine out of every ten staff members thought the Program should be continued with or without modification. This was equally true for the classroom and the non-classroom personnel.

The average ratings for all the teachers who favored continuation was 2.07; for those who wanted modification, the rating was 1.62; and for those voting to discontinue the Program, 1.15. The difference in the average ratings between any two of these groups was statistically significant. This analysis revealed an association between the average rating score given by the teacher and her decision to continue or not continue.

Reasons for their decisions regarding the future of the Program were given by 247 or 63.99 per cent of all the teachers answering this part of the Questionnaire. It was found that reasons for continuing were given by 137 teachers, support for modification by 78 and all 29 who wished to discontinue the Program.

The reasons given most frequently by those voting for continuation were "cultural enrichment" and "additional remedial and guidance services" offered by the Program. Several teachers felt the Program should be expanded to include all grades from the kindergarten up, and some pointed up the need for more services, better use of staff, and smaller classes.

Those favoring modification mentioned smaller classes, expanded services, better liaison between staff and classroom teacher, and greater emphasis on curricular areas such as reading and arithmetic.

Those who wished to discontinue the Program offered such reasons as "the needs of pupils can best be met by the classroom teacher with smaller registers," "all teachers should be returned to the classroom for maximum efficiency," "too much emphasis on out-of-class activities," "tremendous gap between theory and practice," and "not solving the basic problem of class discipline and learning."

Conclusions

The professional staff in the participating Higher Horizons elementary schools felt that the Program tended to have "some positive effects." The overwhelming majority of the teachers favored continuation of the Program. The goals most effectively implemented were those concerned with cultural activities and the provision of additional guidance and remedial services. Modifications were also suggested which included the expansion of services, smaller class registers, better use of staff, and greater emphasis on academic achievement.

Summary

The purpose of this study was to determine teacher estimates of the effectiveness of the Higher Horizons Program in participating schools. A Teachers' Questionnaire was completed anonymously by 386 teachers in sixteen Higher Horizons elementary schools in June 1963. This sample represented almost 80 per cent of the 492 on the professional staff in these schools.

The Questionnaire provided data relating to the teaching experience of the respondents and a checklist of 25 statements representing some of the major goals and procedures of the Program. Teachers rated each Questionnaire item on a four point scale which described the degree to which the Program had been effective. In addition, teachers were asked to indicate with a brief explanation whether they felt the Program should be continued, modified, or discontinued.

The analysis of the background data showed that about one third of the staff had been in the school for five years, but half had been serving no more than three years.

About 80 per cent of the 386 respondents were classroom teachers. Of these, two out of three had been in the classroom two years or less, and half were in the school system five years or less. The non-classroom assignments were largely as project teachers, remedial reading teachers, and guidance counselors. Almost half of the most experienced teachers were in the non-teaching positions.

The major findings with respect to the evaluation of the Program by these teachers were as follows:

1. The average score for all respondents was 1.86. This rating indicated that teachers felt the Program tended to have "some positive effects."

2. The school ratings of the Program ranged from 1.63 to 2.00 showing that as a group the staff in each of the schools tended to rate the Program favorably - having "some positive effects."

3. Teacher evaluations were influenced by their assignment in the school and not by years of teaching experience or years in the Program school. Non-classroom personnel rated the Program higher than classroom teachers.

4. The goals most effectively implemented as judged by all the respondents were those concerned with cultural activities and additional services. The Program had least effect on classroom behavior, study habits, peer relationship and educational goals of the students.

5. About two thirds of the teachers favored continuation of the Program, one quarter for modification and less than ten per cent voted to discontinue it.

6. The reasons presented by those who wanted the Program continued were the cultural enrichment and additional services. These teachers also pointed up the need for more services, smaller class registers, and better use of staff. Those favoring modification reiterated the need for smaller classes, expanded services, better liaison between staff and classroom teachers and greater emphasis on academic learning. Those advocating discontinuation felt that all teachers should be returned to the classroom thus reducing class registers in order to better realize the objectives of the Program.

PART III

EVALUATION OF THE HIGHER HORIZONS PROGRAM IN THE JUNIOR HIGH SCHOOLS

Evaluation in the Junior High Schools

At the junior high school level, the evaluation efforts were similar to those for the elementary schools, namely, assessing the effects of the Program on the scholastic aptitude, and achievement as well as the social development of the participating children.

Again, growth in academic aptitude and achievement were determined from measurements on standardized tests of intelligence, reading and arithmetic. Changes in social development and school attitudes were assessed from student self-ratings and teacher ratings of classroom behavior. Educational and vocational aspirations of the students and their parents were surveyed. Other facets of school behavior as exhibited by attendance and truancy and suspension rates were analyzed.

This section consists of a series of separate reports assessing the various aspects of the Program. Each report includes a statement of the specific problem being studied, the design, the findings, the conclusions and a summary of the study.

Chapter VIII presents the study of scholastic aptitude in terms of I.Q. measures. Chapter IX includes reading, arithmetic and assessment of student potential. Chapter X is concerned with studies in classroom behavior, school attitudes, social relationships, educational-vocational aspirations, attendance rates, truancy and suspension rates, and finally, Chapter XI is devoted to the evaluation of the Program by the principals and the professional staff of participating Higher Horizons junior high schools.

CHAPTER VIII

SCHOLASTIC APTITUDE

A. COMPARISON OF INTELLIGENCE TEST SCORES OF HIGHER HORIZONS AND CONTROL JUNIOR HIGH SCHOOL STUDENTS

The usual group tests of verbal intelligence are weighted with cultural factors and are highly correlated with reading achievement;[1] in fact, it has been demonstrated that children from less privileged socio-economic groups perform more poorly on these tests than do more favored groups.[2] It might therefore be expected that a school program designed to raise the educational, vocational and cultural aspirations of underprivileged students, of parents and of the general community might be accompanied by better performance on verbal I.Q. tests. Working through the classroom teacher, and remedial and guidance personnel, the Higher Horizons Program seeks to increase student achievement in areas such as reading, vocabulary and general information, and to impart to these students motivations and goals commensurate with their expanding abilities. If the Program realizes its aims, changes in performance on group tests of verbal I. Q. might be expected.

Problem

The present study was undertaken to determine the effectiveness of the Higher Horizons Program in producing a positive change in verbal I.Q. scores from year to year as compared with the scores of children in non-Higher Horizons schools. The question being asked specifically was:

> "Did junior high school students exhibit a mean score on the eighth grade Pintner I.Q. test which was greater than the mean Pintner I.Q. of a control group from comparable schools when these two groups were equated on sixth grade Otis Beta I.Q. scores?"

Design

Instruments

The Otis Quick-Scoring Mental Ability Test: New Edition, Beta Test, Form EM, administered in the sixth grade, and the Pintner Intermediate Test of General Ability (8th grade) Form A were used to measure the changes. The Otis Beta was administered to the sixth grade in October 1958 and the Pintner was administered to the eighth grade in November 1960, both as part of the citywide testing program. These two tests of intelligence correlate highly with one another. Although there was a two year interval between these two testings, the Pintner was administered only fourteen months after the students entered junior high school.

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[1] Otis, A.S. Otis Quick-Scoring Mental Ability Tests: Manual of Directions. Yonkers-on-Hudson, N.Y.: World Book Co., 1939.

[2] Herrick, V.E. "Relation of I.Q. to Cultural Background" in Eels, K., et al, Intelligence and Cultural Differences. U. of Chicago Press, 1951.

The Metropolitan Intermediate Reading Test, Form U, was administered citywide in the sixth grade in November 1958; the scores were used to classify the groups into achievement levels.

Population

Two groups of students were selected. One consisted of those who had entered ten Higher Horizons junior high schools in the seventh grade in September 1959. The other was the control group also enrolled in the seventh grade in September 1959 but in ten comparable non-Higher Horizons schools.

Only those students who had taken both the sixth and eighth grade I.Q. tests, as well as the sixth grade reading test were considered eligibile for this study. The final groups were chosen by randomly selecting approximately an equal number of eligible students from the two samples.

Some attention was given to the possibility of contamination due to the transferring of students in and out of these junior high schools. It was determined that approximately ninety per cent of the students were in a Higher Horizons school from the beginning of the seventh grade until the Pintner testing in November 1960. The remaining ten per cent were transferees who had been in the Higher Horizons Program for varying periods of time.

Procedure

To test the significance of mean differences on the eighth grade Pintner I.Q.'s, the two groups needed to be equated on sixth grade Otis Beta I.Q.'s. The mean Otis I.Q. scores were compared and found not to differ significantly. Mean Pintner I.Q. scores for the two groups were computed and the significance of the differences were determined by the "t" test. In cases where the groups were not equated initially the analysis of covariance method of controlling initial differences was used. This procedure statistically equated for differences among the sixth grade I.Q. means, adjusted Pintner scores accordingly, and tested the significance of differences among adjusted Pintner I.Q. scores.

A frequency distribution of the Metropolitan Intermediate Reading grade equivalent scores of both the experimental and control groups was made, dividing the students into achievement levels. Because of the readily observable sex differences in the reading grade score distributions, different cut-off points were empirically determined for boys and girls so that there were approximately equal numbers at each level. These data are summarized in Table 84. Both the experimental and control groups contributed approximately equal percentages of students to each of the three reading achievement levels.

Table 84

High, Middle and Low Reading Levels of Boys and Girls on Sixth Grade Metropolitan Test

Reading Level Level	Boys N	Boys Range	Girls N	Girls Range
High	493	5.2-12.0+	409	5.8-12.0+
Middle	516	4.0- 5.1	419	4.4- 5.7
Low	498	2.0- 3.9	427	1.5- 4.3
Total	1507	2.0-12.0+	1255	1.5-12.0+

Results

Comparison of Otis Beta and Pintner I.Q. Scores

The experimental and control groups, boys and girls combined were compared for significant differences with **respect** to sixth grade Otis Beta and eighth grade Pintner I.Q. scores. These results are presented in Table 85

Table 85

Comparison of Mean Otis Beta and Pintner I.Q. Scores of Experimental and Control Groups

	Experimental			Control			Diff.		
	N	Mean	S.D	N	Mean	S.D.	(E-C)	t	P
6th-Otis Beta	1397	90.04	14.10	1365	90.18	14.82	- .14	.25	NS
8th-Pintner	1397	91.11	16.78	1365	91.70	17.32	- .59	.91	NS

Table 85 indicates that the two groups were initially equated on sixth grade Otis Beta I.Q. scores. Although the Pintner mean I.Q. for the control group was .59 higher than that of the experimental group this difference was not statistically significant.

Further analyses on the basis of sex revealed the same trends as noted for the total group comparison, that is, neither boys in the two groups, nor the girls were significantly different on Otis Beta and Pintner I.Q. scores.

Comparison, by Reading Achievement Level, of the I.Q.'s for Boys, Girls and Total Group

The I.Q. comparisons between experimental and control groups were analyzed by reading achievement levels.

1. Low Reading Achievement Level

The results of the I.Q. analysis of the low achievers are presented in Table 86 The low reading achievement group included those boys reading at or below grade level 3.9; for the girls the cut-off point was 4.3.

Table 86

Comparison of Mean Otis Beta and Mean Pintner I.Q. Scores of Boys, Girls and Total Experimental and Control Groups at the Low Reading Achievement Level

		Experimental			Control		Diff.		
	N	Mean	S.D.	N	Mean	S.D.	(E-C)	t	P
Boys									
Otis	767	77.05	9.11	740	75.39	9.02	+1.66	2.04	.05
Pintner	767	75.08	10.44	740	75.01	10.83	+ .07	.07	NS
Girls									
Otis	630	79.55	8.39	625	78.77	8.07	+ .78	.98	NS
Pintner	630	78.20	9.98	625	78.83	10.24	- .63	.64	NS
Total									
Otis	1397	78.21	8.84	1365	76.94	8.82	+1.27	2.19	05
Pintner	1397	76.52	10.37	1365	76.77	10.73	- .23	.36	NS

Comparisons of the mean differences on sixth grade Otis scores as shown in Table 86 , indicate that the Higher Horizons and Control girls in the low achieving group were equated. The difference in their eighth grade Pintner mean scores was also not statistically significant.

However, the results for the boys and the total group indicate a significant difference in Otis scores between the Higher Horizons and Control Groups in favor of the experimental students. An analysis of covariance was undertaken. A significant F-value was found and the Pintner mean I.Q. scores for the boys and total group were adjusted and compared. These data are summarized in Table 87 For the total group comparison, the difference of 1.13 adjusted mean Pintner I.Q. points is statistically significant. This difference was in favor of the control group. When the analysis of covariance was applied to the results of the Higher Horizons and Control boys at the low reading achievement level the difference in adjusted Pintner mean I.Q. was not significant.

Table 87

Comparison of the Adjusted Pintner Mean I.Q. Score of the Boys and Total Group at the Low Reading Achievement Level

	Experimental Mean	Control Mean	Diff. (E-C)	P
Boys				
Otis	77.05	77.56		
Pintner	75.08	75.01		
Adj. Pintner	74.57	75.56	- .99	NS
Total				
Otis	78.21	76.95		
Pintner	76.52	76.77		
Adj. Pintner	76.10	77.23	-1.13	.05

2. Middle Reading Achievement Level

As indicated in Table 88 a comparison of the sixth grade Otis mean I.Q. scores revealed that the boys, girls and total Higher Horizons and Control groups were equated. The experimental and control groups did not differ significantly from one another on eighth grade Pintner scores.

Table 88

Comparison of the Mean I.Q. Scores of the Boys, Girls and Total Group at the Middle Reading Achievement Level

	Experimental		Control		Diff.		
	Mean	S.D.	Mean	S.D.	(E-C)	t	P
Boys							
Otis	87.96	9.53	88.12	9.34	- .16	0.19	N.S.
Pintner	90.00	11.45	89.40	11.87	+ .60	0.59	N.S.
Girls							
Otis	92.48	9.85	91.86	9.15	+ .62	0.67	N.S.
Pintner	93.77	11.19	93.27	10.99	+ .50	0.46	N.S.
Total							
Otis	90.04	10.01	89.75	9.40	+ .29	0.46	N.S.
Pintner	91.74	11.50	91.08	11.67	+ .66	0.87	N.S.

3. High Reading Achievement Level

The high achieving boys included those reading at grade level 5.2 and above; the girls read at 5.8 and above. The results of the analysis of the Pintner mean I.Q.'s, for the boys, girls and total are presented in Table 89.

Table 89

Comparison of the Mean I.Q. Scores of the Boys, Girls and Total Group at the High Reading Achievement Level

	Experimental		Control		Diff.		
	Mean	S.D.	Mean	S.D.	(E-C)	t	P
Boys							
Otis	101.08	11.17	102.33	11.73	-1.25	1.21	N.S.
Pintner	105.11	13.61	106.48	14.06	-1.37	1.10	N.S.
Girls							
Otis	104.38	10.69	105.46	11.87	-1.08	0.97	N.S.
Pintner	106.83	12.28	108.11	13.60	-1.28	1.00	N.S.
Total							
Otis	102.49	11.10	103.83	11.92	-1.34	1.75	N.S.
Pintner	105.84	13.13	107.26	13.88	-1.42	1.58	N.S.

A survey of the data in Table 89 reveals that the total groups, as well as boys and girls separately, were equated on Otis I.Q. scores at the sixth grade. Comparisons between their eighth grade Pintner mean I.Q. scores indicated that any observed differences were not statistically significant. At the eighth grade there was no difference in mean I.Q. score between the boys, girls or total groups of experimental and control students.

Conclusion

From the findings presented in this study, it may be concluded that experimental as compared to control junior high school students did not exhibit higher mean Pintner I.Q. scores at the eighth grade when the two groups were equated on sixth grade Otis Beta scores.

Summary

This study investigated the changes in I.Q. scores from the sixth to the eighth grade of 1397 students in ten Higher Horizons junior high schools as compared with I.Q. changes of 1365 students in ten comparable control schools.

The Otis Beta and Pintner Intermediate Tests of General Ability were used to measure I.Q. in the sixth and eighth grades respectively. The two groups were equated on sixth grade Otis Beta scores and compared for significant differences on eighth grade Pintner scores. Where necessary the two groups were equated statistically by the analysis of covariance technique.

The data were analyzed for total experimental and control groups and for each sex separately. Also, the population was divided into high, middle and low achievement groups based on sixth grade reading test scores. The I.Q. changes were investigated at each of these reading achievement level.

The principals findings were:

1. When the two groups were equated on sixth grade Otis Beta I.Q.

scores, there were no significant differences between them on eighth grade Pintner I.Q. scores. These results held true for the boys and girls in these two groups.

2. At the high and the middle reading achievement levels, there were no statistically significant differences in the eighth grade Pintner scores between experimental and control boys, girls or total groups.

3. At the low reading level, equated groups of boys and of girls were not different on eighth grade Pintner scores. However, the combined group of control boys and girls made slightly higher Pintner scores than the combined experimental group.

The general conclusion which may be drawn is that Higher Horizons and control junior high school students equated on sixth grade Otis I.Q. were not significantly different on eighth grade Pintner I.Q. scores.

B. COMPARATIVE EFFECTIVENESS OF TEACHER RATINGS AND STANDARDIZED MEASURES IN PREDICTING JUNIOR HIGH SCHOOL MARKS

One aspect of the evaluation of the Higher Horizons Program was an examination of instruments used to determine student potential. This examination sought to determine whether teacher estimates of student potential or standardized measures were the more accurate predictors of achievement for students of the study population. Two studies were implemented concerning this question: the first study, referred to as the Junior High school Study, used eighth grade marks as achievement criteria against which previous teacher estimates and standardized measures were compared for accuracy of prediction; the second study, referred to as the High School Study, used tenth grade marks as achievement criteria against which similar predictors were compared for accuracy. This report is confined to the Junior High School Study.

Problem

The major problem of this study was to determine whether seventh grade teacher estimates of student potential were better predictors of eighth grade achievement than standardized test measures.

Design

Population

To test the hypothesis three Higher Horizons junior high schools, B, I, and M, were used in the study. The sample within each school was drawn from the seventh grade. For each school five classes within the grade level were selected by the counselor for participation in the study. The five classes selected covered the range of ability in that school. In all a total of fifteen classes comprising 452 students were included in this study.

Instruments

To secure teacher estimates of student potential the Bureau of Educational Research developed a "Teacher Estimate of Student Potential" form.[1] Standardized test measures used in this study included: the California Short-Form Test of Mental Maturity, Junior High Level, 1957 Form S given in the seventh grade; the Otis Quick-Scoring Mental Ability Test, New Edition, Beta Test, Form EM, administered in the sixth grade; the Stanford Achievement Intermediate Reading Test (Form JM) administered in the seventh grade.

Procedures

The English, social studies, mathematics and science teachers of each participating student were asked to complete the Teacher Estimate of Student Potential Forms. For each student included, the verbal and non-verbal parts of the California Short Form Test of Mental Maturity were administered.

The Stanford Reading score was secured as a result of the citywide testing program. All of these measures were administered while the students were in the seventh grade from September, 1961 to June, 1962. The Otis Beta I.Q. score obtained while these children were in the sixth grade, was secured for the study purposes.

The students were followed through the eighth grade and their school uniform test marks for the third marking period in April 1963 were used as criteria with which to correlate each of the predictor variables. The school wide uniform test is an achievement examination in a particular subject (e.g. English or social studies or mathematics or science) taken by all classes on a particular grade level at the same time on the same day. It is composed of short answer questions and essay type questions; the emphasis is upon the short answer, objective type questions. The uniform test marks used as a criterion in this study, does not consider quality of classroom participation, effort, recitations, homework and the like. The mark is the score obtained by the student on the test. The marks secured were those in English, social studies, science and mathematics. The sum of these four subject marks constitued the criterion for each student. Any student without all of these dependent and independent variables was eliminated from the study. The total students available for the analyses was 206.

Correlations were computed to form a matrix of intercorrelations between predictors and criterion and among predictors. Multiple correlations of combinations of teacher estimates with criterion scores, and of standardized measures with criterion scores were computed for comparative purposes.

Results

First Order Correlations

Table 90 presents the primary matrix of intercorrelations among the variables and criterion.

Table 90

Table of Intercorrelations for Teacher Estimate of Student Potential and Standardized Test Variables with Eighth Grade Uniform Examination Scores (N = 206)

Variables	1	2	3	4	5	6	7	8	9	8th Grade Scores
1. English Teacher Rating	1.00	.74	.55	.57	.47	.33	.55	.31	.49	.55
2. Social Studies Teacher Rating		1.00	.51	.53	.47	.33	.58	.40	.55	.45
3. Science Teacher Rating			1.00	.57	.28	.28	.44	.36	.45	.59
4. Mathematics Teacher Rating				1.00	.37	.25	.45	.41	.48	.60
5. 6th Grade IQ Otis Beta					1.00	.45	.68	.40	.60	.34
6. 7th Grade Reading Average Score						1.00	.51	.34	.47	.29
7. California Non-Verbal IQ							1.00	.56	.87	.47
8. California Verbal IQ								1.00	.89	.35
9. California IQ Verbal and Non-Verbal Total Score									1.00	.46

Table 90 indicates that the teacher ratings are generally higher as a group in relationship with criterion scores than the standardized measures. The range of correlations of teacher ratings with criterion is from .45 to .60 whereas that for the standardized measures is from .29 to .47.

Multiple Correlations

An extended statistical examination of these data was undertaken. Multiple regressions were, therefore, computed for a combination of teacher estimates with criterion ratings and for a combination of standardized measures with criterion ratings. These results are presented in the chart below:

Multiple Correlations Between
Combined Predictor Variables and Criterion

Variables	Multiple R
Combination of Teachers Ratings	
English	
Social Studies	
Science	
Mathematics	.84
Combination of Tests	
Otis Beta IQ	
Reading	
California IQs	.49

It would seem that seventh grade guidance counselors in similar schools should weigh more heavily teacher estimates of student potential when concerned with the problem of estimating future student performance in the school.

Conclusion

From the above results it can be concluded that the combination of seventh grade teacher ratings was superior to the combination of standardized test measures in predicting school achievement in eighth grade for the group under study.

Summary

The major problem of this study was to determine whether seventh grade teacher estimates of student potential were better predictors of eighth grade uniform test marks than standardized measures. A sample of 206 seventh grade children was drawn from three Higher Horizons schools. Teacher estimates of student potential were secured for each student on a form devised by the Bureau of Educational Research from four major subject teachers. Standardized test measures were secured from the Test Data Card for each student and from the results of the administration of the California IQ Tests of Mental Maturity. Teacher estimates were correlated with the sum of four major subject marks. Multiple R's were computed between the criterion of four major subject uniform marks and the four teachers ratings in combination. Similarly, a combination of standardized test scores was correlated with the same criterion to secure the multiple correlation. Results indicated that the combination of teacher estimates of student potential was superior to a combination of standardized test scores as predictors of eighth grade academic achievement.

C. COMPARATIVE EFFECTIVENESS OF TEACHER RATINGS AND STANDARDIZED MEASURES IN PREDICTING HIGH SCHOOL GRADES

The previous report concerned the Junior High School prediction study; this report presents the High School prediction study. The Junior High School Study used eighth grade marks as achievement criteria against which teacher estimates of student potential and standardized measures were compared for accuracy of prediction. This study, the High School Study, used tenth grade marks as achievement criteria against which similar standardized measures and ratings were compared for predictive effectiveness.

Problem

The major problem of this study was to determine whether teacher ratings of student potential at the ninth grade of junior high school secured by a special procedure were better predictors of tenth grade achievement in high school than selected standardized test measures.

Design

Population

To test the hypothesis students enrolled in two Higher Horizons Junior High Schools, - schools B and F, were employed in the study. Every other ninth grade class in each school was selected; the total number of classes drawn was 33.

Instruments

To secure teacher estimates of student potential a measure, the Teacher Estimate of Student Potential Form, was developed. A copy of the rating form and special directions are given in Appendix G. Standardized measures used in this study and the respective grade level and time of administration are as follows:

Standardized Measures Used in Predicting 10th Year Grades

Standardized Measure Used	Grade Level At Which Administered	Year in Which Administered
The Otis Quick-Scoring Mental Ability Test, Form Beta	Sixth	1958-1959
Metropolitan Reading Achievement Test	Sixth	1958-1959
Metropolitan Arithmetic Achievement Test	Sixth	1958-1959
Metropolitan Reading Achievement Test	Seventh	1959-1960
SRA Non-Verbal Classification Form, AM	Seventh	1959-1960
Pintner General Ability Test, Intermediate	Eighth	1960-1961
Stanford Reading Comprehension Achievement Test	Eighth	1960-1961
New York Arithmetic Computations Test	Eighth	1960-1961
Metropolitan Reading Comprehension Achievement Test	Ninth	1961-1962
Iowa Test of Educational Development	Ninth	1961-1962

C. Procedures

Teacher ratings of student potential were secured in the following manner: The English, mathematics, science and social studies teachers of each participating student were asked to complete the Teacher Estimate of Student Potential Form according to standardized directions. These forms were completed in the last marking period of the 1961-1962 school year while the study students were still in ninth grade junior high school. Standardized test data were secured in the following manner: high schools to which students of the study population applied were requested to transcribe the standardized test data from a cumulative record card. The record card contained the scores students received on all standardized tests taken by them while in the New York City school system.

Initial selection of the population was made on the basis of those having all the necessary Teacher Estimate of Student Potential Forms properly completed; those not completed properly were excluded from the study. Upon graduation from junior high school it was found that the available population consisted of 998 students. These students were followed into the first and second terms of tenth grade high school. Final marks in English, mathematics, social studies and science for both terms were secured and averaged to provide the criteria data. A final mark given by a teacher of a particular subject is usually based upon these major factors: uniform examination marks, previous report card marks, classroom participation, recitations, quizzes, effort and attitude.

Not all students had the same number of subjects since programming in high school caused some to take science, for example, before others; however, any marks available in first or second term of tenth grade English, mathematics, social studies or science were averaged to form the individual criterion of school success for each student. In most cases, each student had final marks in at least six major subjects over the two term period. Students who dropped out of school or moved from the city were necessarily lost to the study.

To have restricted the study population only to those with all necessary standardized measures, teachers estimates and criteria ratings, the study population would have been reduced to 150 students or about one-sixth of the initial group. Therefore, in order to make optimum use of the data collected, treatment of the data involved nine separate analyses described below. In each of the nine substudies the multiple R between a battery of standardized measures and high school marks was compared with the multiple R between the four Teacher Estimates of Student Potential Ratings and high school marks to indicate comparative effectiveness of prediction.

Variables in the Nine Studies

Study I involved a comparison of a battery of standardized measures administered in ninth grade with a combination of teacher estimates. The battery of standardized measures included 9 scores from the Iowa Tests of Educational Development.

Study II involved a comparison of a battery of standardized measures administered in the sixth grade with the combination of teacher estimates. The battery included the Otis Beta IQ; Metropolitan Test of Arithmetic Achievement.

Study III involved a comparison of a battery of standardized measures administered in the seventh grade with a combination of teacher estimates. The battery included the SRA Non-Verbal IQ and the Metropolitan Reading Test.

Study IV involved a comparison of a battery of standardized measures administered in the eighth grade with a combination of teacher estimates. The battery included the Pintner IQ, the Stanford Reading Test and the New York City Arithmetic Test.

Study V compared a ninth grade reading score with combination of teacher estimates; in this case the standardized measure was the Metropolitan Reading Test.

Study VI compared a battery of standardized measures with a combination of teacher estimates; the battery of standardized measures included all intelligence test scores received over a four year period including the Otis, SRA Non-Verbal and the Pintner IQ.

Study VII	compared a battery of standardized measures with a combination of teacher estimates; the battery of standardized measures included all reading scores from such tests as the 6th grade Metropolitan Reading, and the eighth and ninth grade Stanford and Metropolitan Reading Tests.
Study VIII	compared a battery of standardized measures with a combination of teacher estimates; the battery of standardized measures included the two arithmetic tests including the 6th grade Metropolitan and the 8th grade New York City Arithmetic Test.
Study IX	compared a battery of standardized measures which included all seventeen of the standardized measures listed with a combination of teacher estimates.

Findings

Basically, the nine studies are of batteries of prediction variables taken by grade level, as in studies one through five; or by trait, as in studies six through eight; or in common, as in the case of Study IX. Table 91 presents the multiple R's of the two sets of measures compared in each of the nine studies. The components of the battery of standardized measures are given also. The components of the teacher estimates were the various marks in the major subject areas as previously described.

Table 91

Multiple Regression Values for Combination of Standardized Measures and Combinations of Teacher Estimates in Predicting High School Marks

Study #	N	Multiple R Teacher Estimate	Multiple R Standardized Measures	Components of the Battery of Standardized Measures
I.	324	.41	.26	Nine scores from the Iowa Tests of Educational Development administered in the 9th grade.
II.	345	.44	.14	Three measures administered in the 6th grade including the Otis Beta IQ; Metropolitan Reading Test; and the Metropolitan Test of Arithmetic Fundamentals.
III.	301	.44	.12	Two measures administered in the 7th grade including the Metropolitan Reading Test and the SRA Non-Verbal IQ.
IV.	315	.43	.27	Three measures administered in the 8th grade including the Pintner IQ, Stanford Reading Test and the New York City Arithmetic Test.
V.	495	.43	.13	One measure administered in the ninth grade, namely the Metropolitan Reading Test.
VI.	250	.42	.11	A combination of 3 intelligence tests administered in sixth, seventh and eighth grades including the Otis Beta IQ, SRA Non-Verbal and the Pintner IQ.
VII.	328	.42	.16	A combination of 3 reading tests including the Metropolitan Reading Test administered in sixth grade, the Metropolitan Reading Test administered in seventh grade and the Stanford Reading Test administered in the eighth grade.
VIII.	330	.48	.16	A combination of 2 Arithmetic Tests including the sixth grade Metropolitan Fundamentals of Arithmetic Test and the eighth grade New York City Arithmetic Test.
IX.	141	.56	.42	a combination of all 17 measures used above.

In the Studies I through V wherein batteries of standardized measures and teacher estimates are compared by grade level, teacher estimates are superior in their prediction of high school achievement. However, the eighth and ninth grade batteries of standardized measures fared better than sixth grade or seventh grade battery or the ninth grade reading measure.

In Studies VI through VIII wherein batteries of standardized measures analyzed by trait are compared to combinations of teacher estimates, once more, teacher estimates are superior. There is little difference in the multiple R whether the battery of standardized measures includes intelligence, reading or arithmetic measures. Only in Study IX where all standardized test measures given a particular child from the sixth to the ninth grade were combined do we obtain a multiple R of standardized test measures that approaches the effectiveness of teacher estimates.

Conclusion

In view of the original problem to determine whether teacher estimates of student potential were better predictors of tenth grade marks than standardized test measures, the findings indicate that in no case did the multiple R of standardized tests ever equal or surpass that of the R for the combination of teacher estimates. Teacher estimates as obtained in this study, are superior to standardized test measures used for this student population.

Summary

This study sought to determine whether teacher estimates of student potential as secured by specially designed procedures and forms were better predictors of tenth grade marks for graduates from two Higher Horizons junior high schools. Approximately one half (500) of the graduating population was ultimately used in the various aspects of this study. Teacher estimates of student potential were secured while the students were still in ninth grade from four major subject junior high school teachers of each child. The standardized test data from the Test Data Card were secured for grades six to nine. Combinations of teacher estimates were compared with combinations of standardized test results in nine substudies by grade level, trait and by all predictors combined. The two sets of measures were compared to determine which combination better predicted tenth grade student high school achievement in terms of report card marks in major subjects. In each of the nine substudies it was found that the combination of teacher estimates was superior.

The overall inference from this study is that teacher estimates as secured in this study are better predictors of high school success for students similar to thosewho have experienced exposure to the Higher Horizons program.

CHAPTER IX

READING AND ARITHMETIC ACHIEVEMENT

A. COMPARISON OF ACTUAL AND EXPECTED GROWTH IN READING COMPREHENSION OF STUDENTS IN HIGHER HORIZONS JUNIOR HIGH SCHOOLS

Problem

The purpose of this study was to analyze changes in reading test scores of students participating in the Higher Horizons Program. The question being asked was: "Did junior high school students make gains in reading during a sixteen month period which were greater than the gains usually expected over such a period?"

Design

Instruments

The Stanford Reading Achievement Intermediate Test, Form JM, provided the reading scores. It consists of a comprehension and vocabulary subtest, the scores of which were treated separately.

The Pintner General Ability Intermediate Test, Form A, was administered as part of the eighth grade citywide testing program. The scores from this intelligence test were used to group the sample into ability levels.

Procedure

The Stanford Reading Test was administered twice to all students in the thirteen Higher Horizons junior high schools. The initial administration was in November 1959 when these students were in the seventh grade, second month, 7.2, of the school year. The final administration took place after a lapse of sixteen school months, in May 1961. At the time of this second administration, their grade placement level was 8.8.

The two mean grade equivalent Stanford scores were computed and compared to ascertain the change in average score over the sixteen school month period. Furthermore, this actual change was compared with an expected normal growth of 1.6 school years, the interval between the initial and final testing. In addition to analyzing the results for the total sample, the data were analyzed by I.Q. levels based on Pintner scores.

Population

Only those students in the thirteen Higher Horizons junior high schools who had two reading scores from the administrations of the Stanford, and a Pintner I.Q. score were considered in the selection of the final sample.

Every other student with a complete set of scores was chosen at random for the analysis. This final sample consisted of 1564 students, 770 boys and 794 girls.

The population was subdivided into three I.Q. groups - High, Middle, and Low I.Q. The high group consisted of those students with Pintner I.Q. scores of 99 and above, the middle group contained those with I.Q. scores between 85 and 98, the low group were those students scoring 84 or below. The number of students and the mean I.Q. for each of the three groups is presented in Table 92.

Table 92

Summary of Mean Pintner I.Q. Scores for the High, Middle and Low Ability Groups

I.Q. Group	N	Mean	S.D.
High	501	110.40	10.45
Middle	557	91.68	3.97
Low	506	74.46	7.41
Total	1564	92.10	16.34

Comparisons were made among the three groups for the significance of the differences among them. The differences were all statistically significant.

Reading Comprehension

1. Actual Growth

The mean grade equivalent scores for the November 1959 and May 1961 administrations are summarized in Table 93 for the total population and subgroups.

Table 93

Actual Mean Grade Equivalent Scores for the Three Ability Groups on the Initial and Final Reading Comprehension Tests

I.Q. Group	N	Initial	Final	Final-Initial
High	501	6.79	8.94	+2.15
Middle	557	5.14	7.24	+2.10
Low	506	3.78	5.29	+1.51
Total	1564	5.23	7.15	+1.92

As indicated in Table 93, the average reading comprehension score for the total sample was 5.23 in November 1959 and 7.15 in May 1961; this was a mean gain of 1.92 school years. The high group gained 2.15 years, the middle group gained 2.10 years and the low group gained an average of 1.51 school years in reading comprehension over the 1.6 school years period.

In November 1959, these pupils should have attained an average grade eqivalent score of 7.2. In May 1961, their grade score, if the students had been progressing normally, should have been 8.8. The total group tested 1.97 years, (7.2-5.23,) below grade level at the first administration, but by May 1961 they were 1.65,(8.8-7.15,) school years below grade placement level.

The high I.Q. group initially tested about four months below the grade placement level of 7.2, but their average grade score in May 1961 was one month above grade level of 8.8. The middle group was about twenty-one months behind in 1959 and finally tested at only sixteen school months behind in 1961. The low group tested at 3.4 years below the grade placement level and in May 1961 remained approximately 3.5 years below their grade level.

2. Adjusted Normal Growth

Growth in reading comprehension depends upon many factors, including intelligence and age. For groups of children with an average I.Q. of 100 and of an average age, the normal gain in a reading score is 0.1 growth for every month of the school year. Since this study deals with a student group whose average I.Q. is 92.10, some adjustment needs to be made in the normal expected growth. The expected normal gain was adjusted according to the following formula:

Mean I.Q. x Interval Between Administrations = Adjusted Expected Gain

Table 94 presents the actual growth measured after sixteen school months and the growth adjusted for the I.Q. differential. The differences between the actual and adjusted growth are summarized for the total sample and for the three groups.

Table 94

Summary of Actual and Adjusted Mean Gains on the Stanford Reading Comprehension Test for High, Middle and Low Ability Groups Over a 16 Month Period

I.Q. Group	Actual Growth	Adjusted Growth	Difference Actual-Adjusted
High	+2.15	+1.77	+0.32
Middle	+2.10	+1.47	+0.63
Low	+1.51	+1.19	+0.32
Total	+1.92	+1.47	+0.45

From Table 94 it can be seen that the comparison of the actual growth indicates that each of the three groups did better than was expected on the basis of their average I.Q. The total population gained, on the average, four and one-half school months more than was expected. The middle I.Q. group showed the greatest gain - about twice that of the other two groups. The two extreme groups gained equal amounts of approximately three months more than was expected considering their average I.Q. level.

Vocabulary

1. Actual Growth

The mean vocabulary grade equivalent scores for the total population and for the three I.Q. subgroups are presented in Table 95 . Scores on both the November 1959 and May 1961 administrations are summarized.

Table 95

Comparison of Actual Mean Grade Equivalent Scores for Three Ability Groups on the Initial and Final Reading Vocabulary Tests

I.Q. Group	N	Mean Grade Equiv. Initial	Final	Gain Final-Initial
High	501	7.14	8.61	+1.47
Middle	557	5.49	7.04	+1.55
Low	506	4.01	5.23	+1.23
Total	1564	5.54	6.96	+1.42

Table 95 indicates that the initial mean grade equivalent score in November 1959 for the total sample was 5.54; by May 1961 they had gained 1.42 months. Between the initial and final administrations of the Stanford Vocabulary test, the three ability groups actually gained 1.47, 1.55 and 1.23 school years respectively. The total sample in November 1959, was 1.7 school years below norm; by the second administration the group tested at 1.8 years below the grade equivalent norm of 8.8.

The high group initially tested at grade level of 7.2, but by May 1961 it was two months below grade level of 8.8. The middle group tested at 17 school months below grade placement level for both administrations and the low group was 3.2 years below grade level in November 1959 and 3.6 years below sixteen months later.

In comparing the results of the two reading subtests, note that in November 1959 the total group tested three months closer to grade placement level in Vocabulary than they did in Comprehension. However, by May 1961 the same group was two months closer to grade level in Comprehension. This indicates an absolute gain in Comprehension grade equivalent score that is five months more than the gain in Vocabulary score.

2. Adjusted Normal Growth

Growth in Vocabulary, as in Comprehension, is dependent upon the factor of intelligence. A comparison of actual and adjusted mean grade equivalent scores is presented in Table 96.

Table 96

Comparison of Actual and Adjusted Mean Gains on the Stanford Vocabulary Test for High, Middle and Low Ability Groups Over a 16 Month Period

I.Q. Group	Actual Growth	Adjusted Growth	Difference Actual-Adjusted
High	+1.47	+1.77	-0.30
Middle	+1.55	+1.47	+0.08
Low	+1.23	+1.19	+0.04
Total	+1.42	+1.47	-0.05

The actual growth in vocabulary over the 16 month interval was approximately one-half month less than the adjusted expected growth. The high group exhibited the greatest difference in actual as compared to the achievement expected of their ability level. The middle and low groups actually gained slightly more than was expected of them.

Conclusions

The conclusions which may be drawn for this population are the following:

1. These Higher Horizons junior high school students made an average gain in reading comprehension during a sixteen month period that was greater than the expected growth.

2. These same students made an average gain in vocabulary during the sixteen month period that was equal to the growth usually expected over such a period.

Summary

The purpose of this study was to test the hypothesis that students in Higher Horizons junior high schools would, over a 16 school month interval, show gains in reading that were greater than the gains usually expected over such a period. The Stanford Achievement Intermediate Reading Test was used to measure changes.

Actual grade equivalent mean scores were computed fòr the group in November 1959 and in May 1961. These actual gains were compared with the normative expected gain for this period and again with the gain that could be expected with a group whose average I.Q. was 92.10.

Growth in reading was also analyzed by ability levels. Students were divided equally into a high, middle and low ability group based on their eighth grade Pintner I.Q.

The following are the chief findings:

1. The actual growth in reading comprehension was 4.5 school months beyond the expected growth for this group over the sixteen month period. Each of the three ability groups, high, middle and low, gained more than was expected. The middle group grew the most, and the low group the least.

2. Actual growth of this group in vocabulary was approximately equal to the expected growth. Again the middle group showed the greatest gain and the low group gained the least.

3. There were greater gains made in reading comprehension than in vocabulary.

It may be concluded that participating junior high school students in the Higher Horizons Program reached the expected gain in vocabulary but exceeded expected gain in reading comprehension.

B. COMPARISON OF THE READING ACHIEVEMENT OF HIGHER HORIZONS AND CONTROL STUDENTS IN JUNIOR HIGH SCHOOLS

Problem

This study was concerned with the effects of the Higher Horizons Program on the achievement in reading comprehension of participating junior high school studentx as compared to students in control schools.

The specific questions asked were:

1. "Did Higher Horizons junior high school students in the ninth grade achieve higher scores in reading comprehension than ninth grade students in comparable non-Higher Horizons control schools when the two groups were equated on seventh grade reading achievement?"

2. "Did ninth year students in Higher Horizons junior high schools achieve higher scores in reading comprehension as compared to their control counterparts who were enrolled in the same schools the year prior to the start of the Program when these two groups were equated on seventh year reading scores?"

Design

The Junior High Division administered the seventh and ninth grade reading tests as part of their testing program. Junior high school students with I.Q.'s of 85 and above receive the Advanced form of the Metropolitan reading test and those students with I.Q.'s of 84 and below receive the Intermediate form of the test. For the purpose of this study, it was decided to treat the Advanced and Intermediate groups separately: The first part of this study was concerned with the Intermediate Reading Group.

Part I - Intermediate Reading Group

Population

The student samples were selected from three groups - an experimental and two control groups. The experimental population consisted of 430 students, 236 boys and 194 girls, who entered the seventh grade in ten Higher Horizons junior high schools in September 1959 when the Program was first initiated.

The first control group contained 330 students, 179 boys and 160 girls, who had entered the seventh grade also in September 1959 in ten comparable but non-Higher Horizons junior high schools. This group is designated as the non-Higher Horizons control.

The second control included 440 students, 251 boys and 189 girls, who entered the seventh grade in September 1958, in the same junior high schools that became Higher Horizons schools one year later. This group is referred to as the pre-Higher Horizons control.

Only those students who had taken the Intermediate form of the reading test and who had a sixth grade I.Q. test score were considered eligible for inclusion in this part of the study.

Instruments

The Metropolitan Intermediate Reading Test, New Edition, Form B was administered to the experimental and non-Higher Horizons students in January 1960 as part of the seventh grade citywide testing program. These same students in the experimental and non-Higher Horizons control schools took the Metropolitan Intermediate Reading Test, New Edition, Form C in January 1962 when they were in the ninth grade. This administration was also part of the citywide testing program. Only the grade equivalent scores from the comprehension subtest were used in these analyses.

The pre-Higher Horizons control groups' seventh grade scores were based on the Metropolitan Intermediate Reading Test, Old Edition, Form U, administered in November 1958 as part of the citywide testing program. In January 1961, this pre-Higher Horizons control group took the New Edition of the Metropolitan Intermediate Reading Test, Form A, when the students were in the ninth grade.

Students in all three groups had to have an I.Q. score on the Otis Quick-Scoring Mental Abilities Test: Beta, Form FM, which was administered in the sixth grade as part of the citywide testing program. These Otis scores were used to divide the students, separately by sex, into high and low I.Q. groups. Table 97 presents the number of boys and girls in each of the three groups and the two ability levels.

Table 97

Numbers of Boys and Girls in Experimental and Two Control Groups in High and Low I.Q. Groups

Group I.Q.Range	Experimental	Non-Higher Horizons Control	Pre-Higher Horizons Control
High			
Boys - 75 and Above	128	76	144
Girls- 77 and Above	98	80	107
Low			
Boys - 74 and Below	107	103	107
Girls- 76 and Below	96	81	82

Procedure

In order to test the significance of the difference in score between the experimental and the two control groups on ninth grade reading comprehension, the three groups needed to be equated on achievement at the seventh grade. If upon examination, the experimental and control groups were not different in seventh grade score, then the difference between their ninth grade scores were tested for significance. Where the groups were not equated at the seventh grade, the analysis of covariance method was used; this statistical procedure corrects for initial inequality among the groups by adjusting the ninth grade scores in accordance with the initial differences, and testing the significance of the differences in adjusted ninth grade reading comprehension achievement scores. The results were analyzed by sex and by ability level.

Results

Comparison of Total Groups

The analysis of covariance technique was used to compare the three groups. Table 98 summarizes and compares the seventh, ninth and adjusted ninth grade mean reading comprehension scores for the Higher Horizons, non-Higher Horizons control and pre-Higher Horizons control group of students. The results are presented separately for boys, girls and total groups.

Table 98

Comparison of the Seventh and Ninth Grade Intermediate Mean Reading Comprehension Scores of the Experimental and Control Groups

	Grade 7			Grade 9			Grade 9 (Adj.)			E-Non HH	E-Pre HH
	Exp.	Non HH	Pre HH	Exp.	Non HH	Pre HH	Exp.	Non HH	Pre HH	P	P
Boys	3.85	3.88	4.09	5.25	5.22	5.22	5.34	5.28	5.09	NS	.05
Girls	4.16	3.85	4.20	5.48	5.25	5.44	5.42	5.41	5.36	NS	NS
Total	3.99	3.87	4.14	5.36	5.24	5.31	5.38	5.35	5.20	NS	.05

Table 98 indicated that there were no significant differences in adjusted ninth grade mean reading scores between the experimental and non-Higher Horizons control boys, girls and total groups.

However, the adjusted reading scores of the experimental as compared to the pre-Higher Horizons boys and total groups were significantly higher. These differences were .25 school years (5.34 - 5.09) for the boys, and .18 school years(5.38 - 5.20) for the total groups. The girls in the two groups were not different.

2. Comparison by I.Q. Levels

The reading achievement of the three groups were analyzed by I.Q. levels. Students in each of these groups were divided into two subgroups based on sixth grade Otis Beta I.Q. scores; the cut-off point was 74 for the boys and 76 for the girls.

Table 99 presents the comparisons of ninth grade reading scores for the experimental and the two control groups, boys and girls separately. These were the students in the low I.Q. range.

Table 99

Comparison of the Seventh and Ninth Grade Intermediate Mean Reading Comprehension Scores of the Experimental and Control Groups in Lower I.Q.Range

	Grade 7			Grade 9			Grade 9(Adj.)			E-Non HH P	E-Pre HH P
	Exp.	Non HH	Pre HH	Exp.	Non HH	Pre HH	Exp.	Non HH	Pre HH		
Boys	3.46	3.67	3.81	4.66	5.02	4.90	4.79	5.01	4.79	NS	NS
Girls	3.88	3.57	3.93	5.07	4.94	5.23	5.02	5.08	5.15	NS	NS
Total	3.66	3.63	3.86	4.85	4.99	5.04	4.88	5.03	4.97	NS	NS

As seen in Table 99 the adjusted ninth year mean reading scores of the experimental groups were not significantly different from those of the boys, the girls or the combined non-Higher Horizons or pre-Higher Horizons control groups.

The results of the ninth grade intermediate reading comprehension scores of the experimental and control groups at the upper I.Q. score level are summarized in Table 100. For the boys the I.Q. cut-off score was 75 or above; for the girls the cut-off score was 77 or above.

Table 100

Comparison of the Seventh and Ninth Grade Mean Intermediate Reading Comprehension Scores of the Experimental and Control Groups in Upper I.Q.Range

	Grade 7			Grade 9			Grade 9(Adj.)			E-Non HH P	E-Pre HH P
	Exp.	Non HH	Pre HH	Exp.	Non HH	Pre HH	Exp.	Non HH	Pre HH		
Boys	4.18	4.16	4.30	5.75	5.49	5.46	5.80	5.56	5.39	NS	.05
Girls	4.43	4.14	4.40	5.89	5.56	5.60	5.83	5.69	5.56	NS	NS
Total	4.29	4.15	4.34	5.81	5.53	5.52	5.80	5.65	5.47	NS	.05

Table 100 shows that the boys, the girls and the combined total experimental group as compared to their counterparts in the non-Higher Horizons controls were not significantly different with respect to adjusted ninth grade reading scores.

However, the adjusted reading score for the boys and the combined total was significantly higher for the experimental than for the pre-Higher Horizons boys and combined group, .41 for the former and .33 for the latter. The girls in the two groups were not significantly different.

Part 2 - Advanced Reading Group

Design

Population

There were three groups, an experimental and two controls. The experimental group was made up of 722, 292 boys and 430 girls, the non-Higher Horizons group consisted of 707 students, 283 boys and 424 girls and the pre-Higher Horizons group contained 728 students, 290 boys and 438 girls.

Only students who had taken the advanced level of the Metropolitan Reading test in the seventh and ninth grades as well as the sixth grade Otis Beta I.Q. test were considered in these averages. The final samples were chosen by randomly selecting students with complete data.

Instruments

For this part, the junior high students selected took, as part of the citywide testing program the Advanced form of the Metropolitan Reading Test. These tests, administered to the experimental, non-Higher Horizons control and pre-Higher Horizons control groups during their respective seventh and ninth grades, were the same forms given on the same dates as described in Part 1..

Students in all three groups had to have 6th grade I.Q. score in order to analyze the results by ability level; the I.Q. measure used was the Otis Quick-Scoring Mental Abilities Test: Beta, Form FM. In Table 101the number of boys and girls, in each of the three sample groups are summarized for the three I.Q. levels.

Table 101

Number of Boys and Girls in Experimental and Two Control Groups in Each of Three Otis I.Q. Levels

Group	I.Q.Range	Exp.	Non-Higher Horizons Control	Pre-Higher Horizons Control
High				
Boys	104 - 140	93	106	99
Girls	106 - 140	139	138	148
Middle				
Boys	95 - 103	100	85	86
Girls	97 - 105	139	135	124
Low				
Boys	65 - 94	99	92	105
Girls	70 - 96	152	151	166

Table 101 indicates that both the experimental and control groups contributed approximately equal percentages of students to each of the three I.Q. ability levels; there was no statistically significant differences in percentages of experimental or control groups' students at any I.Q. level for either boys or girls.

Procedure

The same statistical techniques outlined in Part 1 were used in the seventh to ninth grade comparisons of the Advanced level.

Results

Comparison of Total Groups

Table 102 summarizes and compares the seventh, ninth and adjusted ninth grade reading comprehension mean scores for the Higher Horizons, non-Higher Horizons control and pre-Higher Horizons control groups. The results are presented separately for boys, girls and total group.

Table 102

Comparison of the Seventh and Ninth Grade Mean Advanced Reading Comprehension Scores of the Experimental and Control Groups

	Grade 7			Grade 9			Grade 9(Adj.)			E-Non HH	E-Pre HH
	Exp.	Non HH	Pre HH	Exp.	Non HH	Pre HH	Exp.	Non HH	Pre HH	P	P
Boys	6.76	6.92	6.78	9.08	9.07	8.95	9.12	9.00	8.98	NS	NS
Girls	6.75	6.92	6.51	8.98	9.05	8.62	8.97	8.91	8.78	NS	NS
Total	6.75	6.92	6.62	9.02	9.06	8.75	9.03	8.94	8.85	NS	.05

Table 102 indicates no significant difference in the adjusted ninth grade reading score between the experimental and the control non-Higher Horizons boys, girls and total groups. Comparisons of the Higher Horizons group with pre-Higher Horizons controls revealed no significant differences between the boys or the girls. However for the total groups, boys and girls combined, the difference of 1.8 school months in favor of the Higher Horizons group was statistically significant.

Comparison by I.Q. Level

The ability levels for the high, middle and low I.Q. groups were defined in Table 101 ; the cut-off points were determined separately for boys and girls, since the distribution of their Otis Beta scores were not the same.

Table 103 presents the results of the ninth grade advanced reading comprehension analysis of the low I.Q. group. This group includes boys with I.Q. scores at or below 94 and girls with I.Q. scores at or below 96.

Table 103

Comparison of the Seventh and Ninth Grade Mean Advanced Reading Comprehension Scores of the Experimental and Control Groups with Lower I.Q.Range

	Grade 7			Grade 9			Grade 9(Adj.)			E-Non HH F	E-Pre HH
	Exp.	Non HH	Pre HH	Exp.	Non HH	Pre HH	Exp.	Non HH	Pre HH		
Boys	5.45	5.61	5.53	7.80	7.81	7.63	7.86	7.75	7.63	NS	NS
Girls	5.51	5.70	5.37	7.69	7.93	7.25	7.69	7.80	7.36	NS	.05
Total	5.49	5.66	5.43	7.73	7.89	7.40	7.76	7.80	7.47	NS	.05

Table 103 reveals no significant differences in adjusted ninth year reading scores between the experimental and non-Higher Horizons control boys, girls and total groups. The girls as well as the combined group of experimental students achieved significantly higher reading scores than the pre-Higher Horizons girls and combined group, .33 for the former and .44 for the latter. The differences between the experimental and pre-Higher Horizons boys were not significant.

Table 104 summarizes the results of the comparison in reading comprehension achievement of the experimental and two control groups at the middle I.Q. level. The groups include boys with Otis Beta I.Q. scores between 95 and 103 and girls with scores between 97 and 105.

Table 104

Comparison of the Seventh and Ninth Grade Mean Advanced Reading Comprehension Scores of the Experimental and Control Groups in Middle I.Q.Range

	Grade 7			Grade 9			Grade 9(Adj.)			E-Non HH P	E-Non HH P
	Exp.	Non HH	Pre HH	Exp.	Non HH	Pre HH	Exp.	Non HH	Pre HH		
Boys	6.47	6.76	6.78	9.09	9.07	8.91	9.21	9.01	8.84	NS	NS
Girls	6.62	6.80	6.39	8.93	9.06	8.71	8.92	8.92	8.86	NS	NS
Total	6.56	6.78	6.55	9.07	9.06	8.79	9.05	8.96	8.84	NS	NS

From Table 104 it may be seen that there were no significant differences between the experimental boys, girls and combined group and their non-Higher Horizons control counterparts. This was also true of the experimental group as compared to the boys, girls and combined pre-Higher Horizons group.

The final comparisons involved groups of students who had the Advanced Metropolitan Reading Comprehension test and who scored in the upper end of the

I.Q. distribution. The boys scored at or above 104 on the 6th grade Otis Beta; the girls scored at 106 or above. The seventh and ninth grade scores, and the adjusted ninth grade scores are presented in Table 105.

Table 105

Comparison of the Seventh and Ninth Grade Mean Advanced Reading Comprehension Scores of the Experimental and Control Group in Upper I.Q. Range

	Grade 7			Grade 9			Grade 9(adj.)			E-Non HH	E-Pre HH
	Exp.	Non HH	Pre HH	Exp.	Non HH	Pre HH	Exp.	Non HH	Pre HH	P	P
Boys	8.46	8.19	8.11	10.43	10.16	10.37	10.34	10.19	10.43	NS	NS
Girls	8.23	8.37	7.90	10.43	10.27	10.08	10.39	10.16	10.22	NS	NS
Total	8.32	8.30	7.98	10.43	10.22	10.22	10.37	10.17	10.31	.05	NS

Table 105 reveals no significant differences between the experimental and non-Higher Horizons boys and girls in the upper I.Q. range with respect to adjusted ninth grade reading scores. The total group of experimental pupils, however, scored..20 school years higher than the non-Higher Horizons total group, a difference which was statistically significant. The differences between the boys, girls and the total experimental and pre-Higher Horizons groups were not significantly different.

Conclusion

The conclusion which may be drawn from this study is that Higher Horizons junior high school students tended to show greater gains in reading achievement than comparable students in pre-Higher Horizons schools. However, the reading scores of Higher Horizons students in general, were not different from those of non-Higher Horizons control junior high school students.

Summary

This study compared achievement in reading comprehension over a two year period of students in Higher Horizons junior high schools with that of students in comparable non-Higher Horizons control schools and pre-Higher Horizons control schools.

The experimental population consisted of students who had entered the seventh grade in ten Higher Horizons junior high schools in September 1959. The non-Higher Horizons control group consisted of pupils in ten comparable non-Higher Horizons schools also in the seventh grade at the same time. The pre-Higher Horizons population, the second control, consisted of students who entered the seventh grade in September 1958, in the same ten schools that became Higher Horizons schools, a year later in September 1959.

Only those students were included for study who had taken the Otis Beta Test at the sixth grade, the Metropolitan Reading Test at the seventh, and another form but the same level of the Metropolitan at the ninth grade. Since junior high school students are given either the intermediate or the advanced form of this reading test at the seventh and ninth grade, there were two populations to be considered. These two populations were studied separately and the results are therefore presented separately.

In each of the two reading level populations, the three groups, the experimental and two control, were statistically equated on seventh grade reading comprehension scores and compared on ninth grade scores. In addition, these results were analyzed by ability groupings based on Otis Beta I.Q. scores.

For the students who took the intermediate reading test, the following are the chief findings:

1. The experimental group achieved significantly higher reading scores at the ninth grade than the pre-Higher Horizon control but not the non-Higher Horizon control groups.

   The experimental girls were not significantly different in reading from the girls in the two control groups.

   The experimental boys, however, scored significantly higher than the pre-Higher Horizon control boys but not the non-Higher Horizons control counterparts.

2a. In the low I.Q. range, the total group as well as the boys and the girls in the experimental schools did not score higher in reading comprehension than their counterparts in the two control groups.

b. At the High I.Q. range, the total group of experimental students, as well as the boys, achieved significantly higher scores than the pre-Higher Horizons controls but not the non-Higher Horizons controls.

c. The experimental girls did not score significantly different from the girls in either the non-Higher Horizons or pre-Higher Horizons control groups.

For students who had taken the advanced reading test, the following are the chief findings:

1. The total experimental group as well as the boys andgirls separately, scored higher than the pre-Higher Horizons but not the non-Higher Horizons control groups.

2a. The total experimental low I.Q. group as well as the girls scored higher than the pre-Higher Horizons but not the non-Higher Horizons corresponding groups. The experimental boys were not significantly different either from the pre-Higher Horizons or the non-Higher Horizons boys.

b. In the middle I.Q. range, the experimental boys, girls and combined group were not significantly different from their counterparts in either control groups.

c. In the high I.Q. range, the total experimental group made significantly higher ninth grade reading scores than the total non-Higher Horizons group. The boys and girls in these two groups were not different. A comparison of the experimental boys, girls and combined group with the corresponding pre-Higher Horizons groups showed no significant differences in reading scores.

The conclusion which may be drawn from the data is that in general, the experimental group did not achieve higher reading scores than the non- Higher Horizons controls over a two year period but tended to show greater gains than the pre-Higher Horizons students.

C. COMPARISON OF ACTUAL AND EXPECTED GROWTH IN ARITHMETIC OF STUDENTS IN HIGHER HORIZONS JUNIOR HIGH SCHOOLS

Problem

The purpose of this study was to investigate changes in arithmetic achievement test scores of students participating in the Higher Horizons Program. The question being asked was:

> "Do Higher Horizons junior high school students make an average gain in arithmetic achievement over a sixteen month period that is greater than the gain that might be expected?"

Design

Instruments

The Stanford Achievement Intermediate Arithmetic Test, Form JM, was used in the evaluation. This test consists of two subtests, Reasoning and Fundamentals, which were treated separately in the analysis.

The Pintner General Ability Intermediate Test, administered as part of the citywide testing program in the Fall of 1960, was used to divide the sample into I.Q. ability levels.

Procedure

The Stanford Arithmetic Test was administered twice to all the students in the thirteen Higher Horizons junior high schools. The initial administration was in November 1959; the final administration was after a lapse of sixteen instructional months, in May 1961. At the time of the initial and final administrations, their grade placement levels were 7.2 and 8.8 respectively.

The mean grade equivalent scores were computed and compared to ascertain the change in average score over the sixteen month period; this actual change was compared with an expected normal growth of 1.6, the interval between the initial and final testing.

In addition to analyzing the results for the total sample, the data were analyzed on the basis of subgroups determined by I.Q. level.

Population

The sample of 1564 students used in these analyses were chosen by selecting every other student with complete data in the thirteen Higher Horizons junior high schools. Only those who had scores on the Pintner as well as scores on both administrations of the arithmetic test were eligible for inclusion.

The total sample was subdivided into three subgroups, high, middle and low I.Q. The high I.Q. group consisted of those students with Pintner scores of 99 and above, the middle group of those with I.Q. scores between 85 and 98 and the low group of those students scoring 84 or below. These subgroups are the same as those found in the study of reading achievement.

Results

Reasoning

1. Actual Growth

The mean grade equivalents on the arithmetic reasoning subtest were computed and the results for both administrations are presented in Table 106 Scores were tabulated for the total population and for the low, middle and high I.Q. groups.

Table 106

Actual Mean Grade Equivalent Scores for Total, High, Middle and Low I.Q. Groups On the Initial and Final Administrations of the Arithmetic Reasoning Subtest

I.Q. Group	N	Mean Grade Equivalent	S.D.	Mean Gain Initial-Final
High				
Initial	501	6.92	1.28	+1.44
Final	501	8.36	1.33	
Middle				
Initial	557	5.63	1.04	+1.25
Final	557	6.88	1.21	
Low				
Initial	506	4.48	0.89	+0.97
Final	506	5.45	1.18	
Total				
Initial	1564	5.67	1.46	+1.22
Final	1564	6.89	1.70	

Table 106 shows that the total group gained, on the average, 1.22 school years in the 1.6 school years interval between successive administrations. In none of the three I.Q. subgroups was the actual average gain equal to the elapsed time of 1.6 interval; high group gained 14 school months, middle group gained approximately 13 months, and low group grew about 10 months during this period.

The initial and final arithmetic scores of the total and the three I.Q. subgroups were compared with the grade placement levels of 7.2 and 8.8 respectively. The total group of students that initially tested 1.53 school years below grade level in November 1959, tested 1.91 school years below grade level in May 1961. There is an indication that the rate of falling below grade placement level increased as mean I.Q. decreased. High group initially tested at 0.28 years below and by May 1961 was 0.44 years behind. Middle and low groups initially tested 1.57 and 2.72 school years respectively behind grade placement but by the second administration were 1.92 and 3.35 school years below grade placement level.

2. Adjusted Normal Growth

An adjustment in score was made based on the assumption that for every instructional month an average group with a mean I.Q. of 100 gains 0.1 years in arithmetic. Since this sample of students had an average I.Q. of less than 100, an adjustment was made in the amount of growth expected of them. The adjusted or expected normal growth was calculated by multiplying the mean I.Q. of this group with 1.6, the time interval between testings. Comparisons of the actual with the adjusted gains for each of the three I.Q. groups are summarized in Table 107.

Table 107

Actual and Adjusted Mean Gains and Their Differences on the Stanford Arithmetic Reasoning Test for High, Middle and Low Ability Groups Over a 16 Month Period

I.Q. Group	Mean I.Q.	Actual Growth	Adjusted Growth	Difference Actual-Adjusted
High Group	110.40	+1.44	+1.77	-0.33
Middle Group	91.68	+1.25	+1.47	-0.22
Low Group	74.46	+0.97	+1.19	-0.22
Total	92.10	+1.22	+1.47	-0.25

As evidenced in Table 107, the actual growth for the total group is 0.25 of a school year, less than the adjusted expected gain. Each subgroup did less well than was expected: The highest I.Q. group performed relatively poorest of any of the groups in terms of what was expected of them.

Fundamentals

1. Actual Growth

The data from the two administrations of the arithmetic fundamentals subtest are summarized in Table 108. The scores are presented as average grade equivalents for each of the three subgroups and for the total sample.

Table 108

Actual Mean Grade Equivalent Scores for Total, High, Middle and Low Groups on the Initial and Final Administration of the Arithmetic Fundamentals Subtest

I.Q. Group	Mean Grade Equivalent	S.D.	Mean Gain Initial-Final
High			
Initial	6.50	1.14	+1.17
Final	7.67	1.20	
Middle			
Initial	5.48	1.01	+1.07
Final	6.55	1.16	
Low			
Initial	4.50	0.89	+0.86
Final	5.36	1.13	
Total			
Initial	5.49	1.30	+1.03
Final	6.52	1.49	

Table 108 reveals that the total group gained about 1.03 school years during the 1.6 school year period; the high group gained 1.17 years, the middle group 1.07 years and the low group 0.86 school years.

Initially, in November 1959, the total group tested at 1.7 school years below grade placement level of 7.2; by May 1961 they were 2.28 school years below grade level. Each subgroup manifested this progressive decrease; initially the high group tested 0.70 years below, the middle group 1.72 years and the low group 2.70 years below grade placement level. In May 1961 the three subgroups tested at 1.13, 2,25 and 3.44 years below grade level respectively.

2. Adjusted Normal Growth

A comparison of gains, expressed as actual and adjusted mean grade equivalent scores, is presented in Table 109. The comparison was made for each of the I.Q. subgroups and the total group.

Table 109

Actual and Adjusted Mean Gains on the Stanford Fundamentals Test For High, Middle, Low and Total Groups Over a 16 Month Period

I.Q. Group	Actual Growth	Adjusted Growth	Difference Actual-Adjusted
High	+1.17	+1.77	-0.60
Middle	+1.07	+1.47	-0.40
Low	+0.86	+1.19	-0.33
Total	+1.03	+1.47	-0.44

It is apparent from the data in Table 109 that the actual gain in Arithmetic Fundamentals, over a 16 month period, does not equal the adjusted expected gain. For the total group the difference is 0.44 school years below the expected growth. The difference between the actual and adjusted gain for the high, middle and low groups is respectively .6, .4 and -.3 school years below the expected growth.

Conclusions

From the data presented in this study, it may be concluded that Higher Horizons junior high school students did not make gains in arithmetic achievement over a sixteen month period that was greater than the gains that might be expected over that period of time. This was true for achievement in arithmetic fundamentals as well as arithmetic reasoning.

Summary

The purpose of this study was to compare the actual and expected gains in arithmetic of students in Higher Horizons junior high schools over a sixteen month school period. The Stanford Achievement Intermediate Arithmetic Test, consisting of two subtests, was used to measure changes.

Actual grade equivalent mean scores were computed for the total group in November 1959 and in May 1961. These actual gains for this time interval were then compared with the normative 1.6 year gain, and the adjusted 1.47 year gain that could be expected with a group whose average I.Q. was 92.10.

For more intensive analysis, the 1564 students were divided equally into a high, middle and low ability group based on their eighth grade Pintner I.Q.

The total group actually gained 1.22 school years in arithmetic reasoning during the interval between administrations. This was 0.25 school years less than the 1.47 years expected growth.

Of the three ability groups, the high I.Q. group showed the greatest discrepancy between actual and expected gains in both arithmetic fundamentals and arithmetic reasoning.

In conclusion, the results indicate that these junior high school students did not make an average gain in arithmetic test grades during a sixteen month period that is greater than or equal to the growth usually expected over such a period.

D. COMPARISON OF GROWTH IN ARITHMETIC OF HIGHER HORIZONS AND CONTROL JUNIOR HIGH SCHOOL STUDENTS

Problem

This study was concerned with growth in arithmetic achievement of students in Higher Horizons, non-Higher Horizons and pre-Higher Horizons Junior High Schools from the sixth to the eighth grade.

The specific questions being asked were:

1. "Did students in the Higher Horizons Program achieve higher eighth grade mean arithmetic scores than junior high school students in non-Higher Horizons control schools when the two groups were equated on sixth grade arithmetic achievement?"
2. "Did students in Higher Horizons Program achieve higher eighth grade mean arithmetic scores than junior high school students in pre-Higher Horizons schools when the two groups were equated on sixth grade arithmetic achievements?"

Design

Population

Three student groups participated: an experimental and two control groups. The experimental group consisted of students who entered the seventh grade in ten of the thirteen Higher Horizons junior high schools in September 1959. The first control group consisted of students in ten comparable but non-Higher Horizons schools who were seventh graders in September 1959. The second control group consisted of students from the same ten Higher Horizons schools, but who entered junior high in September 1958, one year prior to the initiation of the experimental program.

The final groups were chosen by randomly selecting approximately equal numbers of eligible students from the three parent groups. Only those students who had taken both the sixth and eighth grade arithmetic achievement tests were considered for this study.

The final samples used in this study consisted of an experimental group consisting of 1396 students; 742 boys and 654 girls; a non-Higher Horizons control group composed of 1364 students of whom 728 were boys and 636, girls; and a pre-Higher Horizons control group comprising 1372 students, 729 boys and 643 girls.

Instruments

The Metropolitan Arithmetic Test, Form U, Computations, administered in the sixth grade and the New York City Computations Test, Form C, given in the eighth grade were used to measure the achievement of the experimental and non-Higher Horizons groups. The Metropolitan was administered in February 1959 and the New York City Test was administered in January 1961, as part of the citywide testing program. The scores for the pre-Higher Horizons control group, those entering grade 7 in September 1958, were obtained from the citywide administrations of the Metropolitan Arithmetic and New York City Arithmetic tests given in February 1958 and January 1960 respectively. There was an interval of 20 school months between testings, although the New York City Computations Test was administered 17 months after the students entered junior high school.

Procedure

To measure growth in arithmetic, the three groups were equated on sixth grade Metropolitan scores and compared for significant differences on eighth grade New York City scores. Since the groups were not equated on sixth grade scores, the analysis of covariance method of controlling the initial differences was used. The significance of the differences among the adjusted eighth grade scores was then determined. Raw scores and not grade scores were used.

Results

Table 110 summarizes the mean raw score of the experimental and control groups on the sixth and eighth grade arithmetic computations tests. Since the groups were not equated initially, the statistically adjusted eighth grade scores used in the analysis of covariance, are also summarized.

Table 110

Comparisons of Mean Raw Scores on Sixth and Eighth Grade Arithmetic Tests for Total Experimental and Two Control Groups

	Experimental	Non-Higher Horizons	Pre-Higher Horizons	Experimental Non-Higher Horizons P	-Experimental- Pre-Higher Horizons P
6th grade Metropolitan	22.6	23.5	21.5		
8th grade New York City	14.9	15.4	14.4		
Adj. 8th grade New York City	14.8	14.8	15.0	NS	NS

Table 110 indicates that there were no significant differences on adjusted eighth grade arithmetic computation raw scores, between the total experimental and the total non-Higher Horizons groups and also between the total experimental and total pre-Higher Horizons groups. Separate analysis by sex comparing the experimental with the two control groups revealed no significant differences.

Conclusions

From the findings it may be concluded that when the experimental and control students were equated at the sixth grade there were no significant differences in eighth grade arithmetic achievement for the total groups or for boys and girls separately.

Summary

This study investigated arithmetic achievement for 1396 experimental students as compared with 1364 students in comparable non-Higher Horizons schools and 1372 students in the experimental schools during the year prior to the introduction of the Higher Horizons program.

The Metropolitan Arithmetic Computations Test and the New York City Arithmetic Computations Test were used to measure arithmetic achievement in the sixth and eighth grades respectively. The Metropolitan scores were used to equate the three groups. Because there was a significant difference among the groups at the sixth grade, the analysis of covariance method was used to control initial differences for comparing adjusted eighth grade scores.

The differences between experimental and the two control groups in adjusted eighth grade mean raw score were not significant for either boys or girls or for the total groups.

CHAPTER X

SCHOOL ATTITUDES AND SOCIAL DEVELOPMENT

A. CLASSROOM BEHAVIOR IN HIGHER HORIZONS AND CONTROL JUNIOR HIGH SCHOOLS - PART 1

Problem

One aspect of the evaluation of the Higher Horizons Program concerns student classroom behavior in control and experimental schools. Three studies have been designed to test the effects of the Program on this aspect of student behavior. The 1961-62 study, Part 1, which is reported upon here, is limited in scope and represents the initial use of the Behavior Rating Scale described in Appendix H. The two 1962-63 studies, Parts 2 and 3, present more definitive information as to the effect of the Program on student behavior.

In the present 1961-62 study, the evaluation is restricted to the ninth year grade level in four junior high schools. In the 1962-63 studies, the evaluations include seventh, eighth and ninth grades. One other difference is that in these latter studies students were matched on initial measures and compared on final measures. The present study assumes both control and experimental groups began at the same level of behavior and were measured only once at the end of the ninth school year.

The question being asked in this initial study is as follows:

> "Do experimental pupils exhibit better behavior than control pupils as measured by teacher on the Behavior Rating Scale?"

The assumption was made that the control and experimental students were functioning at equivalent levels of school behavior at the beginning of the seventh grade. It is hypothesized that student behavior in the experimental schools would function at a more acceptable level because of the effects of the Higher Horizons Program. Conversely, it was judged that student behavior in the control schools would show less improvement in behavior over the same period. Results of the study are to be interpreted with these assumptions in mind.

Design

Population

Four schools were used in the analysis; two control and two experimental junior high schools matched on ethnic distribution and mean Otis Beta I.Q. scores. The control schools were Q and W; the experimental schools were G and J. The sample within each school was drawn randomly from ninth year classes and comprises a group of pupils who had spent three years in either the control or experimental schools included in the study. In all, 157 experimental and 234 control students were evaluated by their teachers on the Behavior Rating Scale. The sample initially selected for inclusion in the study represented approximately 25 per cent of the ninth year in each school.

Instrument

The Behavior Rating Scale which is found in Appendix H was used to secure the data. The Scale was designed to measure ten aspects indicative of student behavior in the classroom. For each item the teacher was required to check one of five category headings representing frequency of occurrence. The frequency headings were rated from "0" to "4", that is, a check for a particular item under heading "Never" was scored 4 points; "Rare" was scored 3 points, "Occasional" 2 points; "Frequently" 1 point; and "Almost Always" was scored 0 points. With this system of scoring, the student with good classroom behavior scored higher than one whose behavior was not as good. A student rating from any one teacher for all ten items could range between 0 and 40. However, a student's final score was the total of two teachers' ratings which extended the possible range of scores from 0 to 80.

Procedures

In selecting pupils from each participating experimental and control school, every other ninth year class was chosen in descending order of scholastic ability, beginning with the best ninth year class. The homeroom teacher of each participating class chose the name of every other child in that class from her class list. The homeroom teacher then drew up two lists containing the names of these children; these lists consisted of approximately half the students in her homeroom class. For each half class selected, two major subject teachers who taught the class in the morning session were designated to complete the Scale. This procedure was standardized in both control and experimental schools. In effect, approximately 25 per cent of the ninth year students were selected for the study. Two teachers were asked to rate each child to increase the reliability of scores given to individual students. The Scale was administered in May, 1962 near the end of the 1961-62 school year.

Findings

Table 111 presents the results of the teachers' ratings on the Behavior Scale for the control and experimental groups as well as the boys and girls separately.

Table 111

Significance of the Mean Differences in Behavior Ratings of Experimental and Control Groups

	Experimental			Control			Diff.		
	N	Mean	S.D.	N	Mean	S.D.	(E-C)	t	P
Boys	76	54.4	22.3	119	55.9	19.3	-1.5	.48	NS
Girls	81	67.1	13.6	115	68.9	10.3	-1.8	1.01	NS
Total	157	61.0	19.4	234	62.3	16.9	-1.3	.68	NS

As indicated in Table 111 no significant differences were found between control and experimental groups when tested by parametric methods for mean group differences. However, an examination of the data revealed some departure from normality. The data were subjected to non-parametric tests which do not require the assumption of normality in the distribution in testing for significance of differences between means. The specific technique employed was the Kolmogorov-Smirnov two sample tests for large samples.[1] Again no significant differences were found between the two groups.

Conclusion

It may be concluded that the Higher Horizons students participating in this study were functioning at the same level with respect to classroom behavior as their control counterparts.

Summary

This was the first of three studies of classroom behavior of junior high school experimental and control pupils. Students in the ninth year in two Higher Horizons experimental and two Control Schools were selected at random to be evaluated by their teachers on the Behavior Rating Scale, only once in May of 1962, at the end of the school year. No significant differences were found between the two groups with respect to teacher ratings of classroom behavior.

From these data, it appears that the classroom behavior of Higher Horizons and Control ninth grade junior high schools was not significantly different.

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[1] Siegel, S., Non-Parametric Statistics for the Behavioral Sciences, New York, McGraw-Hill, 1956, P. 131.

A. CLASSROOM BEHAVIOR IN HIGHER HORIZONS AND CONTROL JUNIOR HIGH SCHOOLS

Part 2

Problem

The major problem of this second study was to determine whether students in the Higher Horizons Program would show differences in classroom behavior when compared to their control counterparts. In this study report card data were utilized for initial equation of the experimental and control student and teachers' ratings of specific classroom behavior as final criterion measures. The question to be answered is:

> "Do experimental students exhibit better classroom behavior than control pupils as measured by teacher ratings on Behavior Rating Forms?"

Design

Population

Eight junior high schools were used inthe study: four control schools - R, S, T, U - and four experimental schools - A, F, H, M. The sample within each school was drawn randomly from seventh, eighth and ninth year classes. In all, 1,074 experimental and 1,001 control students were evaluated by teachers on classroom behavior using the same Behavior Rating Form employed in Part 1. The experimental and control schools were matched for ethnic distribution and intelligence level. The method of selecting students to participate in the study was similar to that following in Part 1. The sample initially selected represented approximately 25% of the students in each school at each grade level.

Instruments

The report card and the Behavior Rating Form were used to secure the data. The initial ratings upon which students were matched were obtained from the official report card standardized throughout the junior high schools.

The initial report card rating entry was a composite teacher rating for the first marking period from September to mid-November 1962. The two groups were equated on these ratings. The Behavior Scale ratings were obtained from two major subject teachers in June, at the end of the 1962-63 school year. The experimental and control groups were compared for significant differences on the Scale ratings. The Rating Scale Form used was the same as that employed in Part 1. The correlations between initial report card ratings and final Behavior Scale ratings ranged from .40 to .52.

Procedure

The students were selected by the same procedures as in Part 1 but the populations were extended to include the seventh, eighth as well as the ninth grade students in the four pairs of experimental and control junior high schools. Again, about 25 percent of the students at each grade level were chosen.

Students were matched on initial report card ratings by sex and grade level. In all, data from 886 pairs of students were included in the analysis.

Results

The analyses of the ratings on the Behavior Rating Scale for the experimental and control groups separately by sex and grade levels are presented in Table 112 The Kolmogorov-Smirnov two sample tests for large sample technique was employed.[1]

Table 112 shows the "D" values and corresponding chi-square equivalents. The chi-square equivalent for these data must exceed 5.99 to be significant at the .05 level of confidence. The data were subjected to this non-parametric test because the assumption of normality of distribution could not be made concerning the distribution of Behavior Rating Form scores.

Table 112

"D" Test for Experimental and Control Matched Pairs of Students Rated on the Behavior Scale by their Teachers

	Experimental		Control			
	N	Cum.f	Cum.f	D Value (E-C)	Chi-Square Equivalent	P
7th Grade						
Boys	157	56%	61%	5%	.82	NS
Girls	154	71%	82%	11%	3.76	NS
8th Grade						
Boys	152	84%	89%	5%	.82	NS
Girls	160	74%	88%	14%	6.62	.05
9th Grade						
Boys	122	70%	79%	9%	2.4	NS
Girls	141	36%	32%	4%	2.9	NS

An inspection of the chi-square equivalents presented in Table 112 reveals that in five of the six comparisons no significant differences were found between the experimental and control groups regarding classroom behavior as rated by teachers on the Student Behavior Scale. Only in the case of the eighth grade girls was there a significant difference in favor of the experimental group.

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[1] Siegel, S., Non-Parametric Statistics for the Behavioral Sciences, New York, McGraw-Hill 1956, P. 131

Conclusions

From the data presented in this study, it may be concluded that except for the eighth grade girls, the classroom behavior of the experimental groups was not different from that of the students in the control junior high schools.

Summary

In this study the classroom behavior of seventh, eighth and ninth grade students in four Higher Horizons and four control junior high schools were compared. Students initially equated on report card ratings of classroom behavior at the beginning of the 1962-63 school year were compared for significant differences on Behavior Rating Scale scores in June at the end of the school year.

The analysis by sex on each grade level reveals that except for the eighth grade experimental girls who were rated significantly higher than their control counterparts, the two groups did not differ in classroom behavior.

It may, therefore, be concluded that, in general, the classroom behavior of Higher Horizons students was not significantly different from that of control students.

A. CLASSROOM BEHAVIOR IN HIGHER HORIZONS AND CONTROL JUNIOR HIGH SCHOOLS

Part 3

Problem

The third study attempted to determine the effects of the Program on classroom behavior by comparing the report card ratings of class conduct of experimental and control junior high school students.

The question being asked:

> "Do Higher Horizons students exhibit better classroom behavior than control pupils as measured by teacher ratings on report cards?"

Design

Population

There were ten schools involved in this study, five experiments - R, S, T, V and W - and five controls - A, F, H, L, M. Of these, four control and four experimental schools were also employed in the previous study, Part 2. In all, 1710 experimental and 1267 control students, drawn randomly from the seventh, eighth and ninth grade classes, were evaluated by their teachers on classroom behavior. About 25 percent of the students in each school were initially selected for this study. However, only students in the school for the entire experimental period, were included in the final analyses, that is, 3 years for ninth graders, 2 years for eighth graders and 1 year for seventh graders.

Instruments

Classroom behavior estimates were obtained from the official report cards. At each of four marking periods, the teacher rates the classroom behavior of each student either "O" for Outstanding, "S" for Satisfactory or "N" for Needs Improvement. The report card entry which is made by the official teacher is a composite rating based on evaluations submitted by the other teachers of the student.

Procedure

The procedures by which students were selected to participate in this study were the same as those employed and described in Part 2. Two major subject teachers who taught these selected students during the morning session were asked to submit initial and final report card ratings of classroom behavior. The initial report card rating represented an estimate of the student's behavior during the first marking period from September to mid-November 1962. The final report card rating was an assessment of the students conduct during the last marking period, from mid-April to June 1963.

To measure changes in classroom behavior, the experimental and control students were tested for equivalence on initial report card ratings and tested for significant differences on final report card ratings.

The equivalency of the randomized sample of experimental and control groups on initial report card ratings was tested for significant differences by grade level and sex employing the chi-square test of independence in contingency tables. Final differences between control and experimental groups were similarly tested.

Results

The results of the ratings for the initial report card marking period when tested by chi-square procedures by sex and grade level revealed no significant differences in frequencies of ratings between the experimental and control groups.

Table 113 presents the results of a chi-square analysis of frequency differences of final report card ratings by sex and grade level for experimental and control groups.

Table 113

Chi-square Values For Final Report Card Ratings of Class Behavior of Experimental and Control Groups by Sex and Grade

Compared Groups	Final Report Card Ratings #O	#S	#N	Total	X^2	P
9th Grade						
Experimental Boys	53	143	59	255	.71	NS
Control Boys	49	117	42	208		
Experimental Girls	101	157	25	283		
Control Girls	77	92	34	203	8.21	.05
8th Grade						
Experimental Boys	56	159	66	281		
Control Boys	49	89	55	193	.94	NS
Experimental Girls	71	176	40	287		
Control Girls	73	101	31	205	8.12	.05
7th Grade						
Experimental Boys	49	178	82	309		
Control Boys	35	109	82	226	6.16	.05
Experimental Girls	74	159	43	276		
Control Girls	52	112	42	206	1.97	NS

Table 113 indicates that on the ninth grade level, the experimental girls were rated better in classroom behavior than the control girls; the boys in the two groups were not significantly different.

On the eighth grade level, the experimental girls again displayed better classroom behavior than the controls and the boys again exhibited no significant differences in report card ratings of conduct.

On the seventh grade level, the experimental boys were rated higher than the control boys and the girls showed no statistically significant differences.

Conclusions

From the data presented, it seems that the Program has some positive effects on the classroom behavior of the girls the longer they are in the Program. This effect is not evident during the first year. The Program appears to have a positive effect on the boys during their first year but thereafter no effects clearly differentiate them from the control boys.

Summary

This third study comparing the class behavior of experimental and control students was based on report card ratings of conduct by their teachers.

Students in the seventh, eighth and ninth grades in five pairs of matched junior high schools were equated on initial report card ratings by sex and grade level and compared for significant differences on final report card ratings of class behavior.

It was found that on the eighth and ninth grade levels, the experimental girls but not the boys were rated significantly better than their corresponding control counterparts. On the other hand, the seventh grade experimental boys and not the girls were rated higher in class behavior. The experimental girls in the eighth and ninth grades and the experimental boys in the seventh displayed better behavior than the corresponding controls.

It appears, therefore, that Higher Horizons students tended to be rated better in classroom behavior in terms of report card ratings than controls. The Program had positive effects on the girls after two years and the boys after the first year only.

B. COMPARISON OF STUDENT ATTITUDES IN HIGHER HORIZONS AND CONTROL JUNIOR HIGH SCHOOLS

Part 1

Problem

One aspect of the Higher Horizons evaluation concerns school attitudes and work habits of students in control and experimental schools. Two comparative studies have been designed to study the effect of the Higher Horizons Program on these attitudes. The 1961-62 study which is reported herein is limited in scope and represents the initial use of the Student Self-Rating Form and the Teacher Rating of Student Attitude Form. The 1962-63 study which is presented in the next report provides more definite information as to the effect of the Program on selected student attitudes.

The two studies differ essentially in the following features: first, the size of population tested in the 1962-63 study was double that of the 1961-62 testing; second, in the 1962-63 study, rating forms were administered twice with an initial score taken in the fall and a final score taken in the late spring, whereas, in the current study, there is only one administration toward the end of the school year.

The questions being asked in this initial study are twofold:

> "Do experimental students exhibit better school attitudes and work habits than control students as measured by student self-ratings on the Student Self-Rating Form?"

> "Do experimental students exhibit better school attitudes and work habits than control students as measured by teacher ratings on the Teacher Rating of Student Attitude Form?"

The experimental and control populations were drawn from three Higher Horizons and three non-Higher Horizons junior high schools.These schools were fairly equivalent in mean Beta I.Q. scores and ethnic distribution of their student populations. The experimental schools were C, G,and J; the control schools were S, Q, and W.

The original sample initially selected for inclusion in the study represented approximately a fourth of students in each grade of junior high school level. Of the original group completing the rating forms, 546 participated in the study; of this number, 234 students had teachers rate them on the Teacher Rating Form. The matched pair technique was employed to compare the attitudes of control and experimental students. In all, 273 pairs of control and experimental students individually matched on age, sex, grade level, and initial rating participated in the study;

117 pairs of these also had completed Teacher Rating of Student Attitude Forms.

Instruments

Three instruments were developed for use in this study. The Student Self-Rating Form, the Teacher Rating of Student Attitude Form, and the Personal Data Sheet. The first two forms were used to secure ratings by students and teachers respectively; the last form was used merely to serve as a summary sheet kept by the students themselves. This latter function is explained in detail under Procedures. Both the Teacher Rating Form and the Student Rating Form consisted of eleven items indicative of a student's attitude toward school. On the Student Rating Form, the student rated himself numerically for each item on a one to five scale indicating the frequency with which he believed himself to have performed the action indicated in the item, both at the start of the school year, and at the end of the school year. To enter scores for both periods, the student had to analyze his present attitudes and then think back to what he believed his attitude for a particular item was at the beginning of the year. The initial score, in effect, was based upon memory or recall; the final score, upon analysis of present action. For this reason the process has been referred to as the "Think-Back" technique. Frequency headings were located on a scale at the top of the form. Above each frequency category was a corresponding number to be used in making entries for each item. The category "Hardly Ever" corresponded to "1," "Seldom" to "2," "Sometimes" to "3," "Usually" to "4," and "Almost Always" to "5." A student with the best attitude toward school would receive the highest score and the one with the poorest attitude toward school the lowest score. A student's rating could range from 11 to 55 for the eleven items used in the form. Teacher Rating Forms and Student Rating Forms included the same items and the same scale values, so that a teacher in rating a student did so for the attitudes upon which the student rated himself. The instruments used are presented in Appendix I.

Procedures

The principals in each participating school were instructed to select four classes on each grade level. The classes selected were to cover the range of ability in the school so that on each level one class was of low ability, two of average ability, and one of high ability. Special classes for the bright and special classes for the retarded were excluded from the selection. Forms were to be completed by all participating students in classes selected during a morning major subject class period. The teacher of this class was instructed to complete the Teacher Rating of Student Attitude Form for half the students in the class by rating every other student on the basis of the class seating arrangement. Special instructions for administering the forms were included with each class set. This procedure was standardized in both control and experimental schools. In effect, approximately 25 per cent of the classes on each grade level were selected for the study. This procedure was adopted to insure a representative cross-section of students in seventh, eighth and ninth grades. The forms were administered in June 1962 at the termination of the 1961-62 school year.

One of the problems inherent in any self-report type instrument similar to the Student Self-Rating Form used in this study is the question of validity; specifically, to what extent does the objective rating given by a student for a particular entry correspond to his true beliefs concerning the item? Two devices were employed in the administration to reduce error stemming from this cause. First, a motivational section was introduced; second, a guidance setting was devised for the test administration to place it upon a more personal basis. To relax the students and place them in a proper setting each teacher administering the Student Self-Rating Form was instructed to read a motivational passage to the class. The passage is listed in Appendix I . To present the scale within a guidance framework a Personal Data Sheet was distributed to the students (Appendix I). The sheet was devised to help the student form an estimate of areas of improvement or lack of improvement concerning the work habits and attitude items listed on the Student Self-Rating Form. With this device it was hoped to induce the students to make more accurate and carefully considered entries on the Form and provide the school guidance staff and students themselves with a constructive follow-up device. The Teacher Estimate of Student Attitude Form was primarily designed to give a more objective indication of growth or decline of proper school attitudes in both control and experimental groups. These two devices, the motivational section and the guidance framework, were designed to increase the validity of the student responses.

Findings

Student Self-Ratings

An analysis of the initial and final scores of all the students in the three pairs of experimental and control schools showed no statistically significant differences between the two groups. The next analysis involved students who were matched individually on age, sex, grade level and initial self-rating scores. This matching reduced the total sample to 546 students constituting 273 matched pairs; these 546 students represented 54 per cent of the total 1,012 Student Self-Rating Forms submitted from control and experimental schools.

Table 114 presents the results of the final ratings on the Student Self-Rating Form for the control and experimental groups matched on initial self-rating scores.

Table 114

Significance of the Mean Differences in Final Student Self-Rating of the 273 Matched Pairs of Experimental and Control Students

	Experimental			Control			E-C		
	Number	Mean	S.D.	Number	Mean	S.D.	Mean Diff.	t	P
Boys	113	46.2	5.56	113	46.6	5.76	-.40	.61	NS
Girls	160	47.1	5.72	160	47.79	4.96	-.69	.76	NS
Total	273	46.7	5.67	273	47.13	5.32	-.43	.95	NS

Table 114 shows that no significant differences were found between control and experimental groups for matched boys, matched girls or the total group.

Another analysis was undertaken for the same matched students on a more intensive basis. In this case results on each grade level within individual pairs of matched schools were examined for significant mean differences; in no case however, was a statistically significant difference found.

Teacher Ratings

From the Teacher Rating of Student Attitude Forms, students were individually matched on age, sex, grade level and initial score on the form. This reduced the total sample of 234 students constituting 117 matched pairs. It should be remembered that teachers completed the forms for only half the class. Table 115 presents the results of the final score ratings on Teacher Estimate of Student Attitude Forms for control and experimental groups.

Table 115

Significance of the Mean Differences on Teacher Rating of Student Attitude Forms for the 117 Matched Pairs of Experimental and Control Students

	Experimental			Control			E-C		
	Number	Mean	S.D.	Number	Mean	S.D.	Mean Diff.	t	P
Boys	53	43.02	9.56	53	43.42	8.2	.40	.12	NS
Girls	64	47.16	8.70	64	47.13	7.3	.03	.04	NS
Total	117	45.28	9.69	117	45.44	9.96	.16	.12	NS

From Table 115, it is evident that there were no statistically significant differences between control and experimental groups for matched boys, matched girls or the total group.

Conclusions

For the students included in this study, it may be concluded that students in the experimental schools did not exhibit better school attitudes and work habits than their control counterparts as measured by students' self-ratings. Teacher ratings of students' school attitudes and work habits were also not significantly different for the two groups of students.

Summary

This study attempted to evaluate the effects of the Higher Horizons Program on the school attitudes and work habits of participating students as measured by student self-ratings and teacher ratings of students.

Seventh, eighth and ninth grade students from three pairs of experimental and control junior high schools were studied.

Rating forms used required the rater, the teacher or student, at the end of the school year to indicate quality of performance and at the same time to think back and estimate the level of performance at the beginning of the school year.

No differences were found between the initial and final ratings of the two groups based on students' self-ratings and teacher ratings of these students.

It may be concluded that students in the experimental schools did not exhibit better school attitudes and work habits than students in control schools based on their self-ratings and the ratings of their teachers.

B. COMPARISON OF STUDENT ATTITUDES IN HIGHER HORIZONS AND CONTROL JUNIOR HIGH SCHOOLS

Part 2

Problem

This is the second study designed to measure the effect of the Higher Horizons Program on school attitudes and work habits. The two major questions were:

> "Do experimental students show different attitudes toward school and school work than control students as measured by student self-ratings on the Student Self-Rating Form?"

> " Do experimental students show different attitudes toward school and school work than control students as measured by teacher ratings on the Teacher Rating of Student Attitude Form?"

Design

Population

Ten schools were used in this analysis, five experimental and five control junior high schools. The control schools were Q, V, W, X and Y; the experimental schools were B, G, I, J and L.

The student sample within each school was drawn randomly from seventh, eighth, and ninth year classes and comprises a group of pupils who had spent all their junior high school careers in one particular school.

Instruments

The three instruments used in this study, which appear in Appendix J were the Student Self-Rating Form, the Teacher Rating of Student Attitude Form, and the Personal Data Sheet. These are modifications of the forms employed in the previous study. - Part 1.. The first two forms were used to secure ratings by students and teachers respectively; the last form was used merely to serve as a summary sheet kept by the students themselves. Both the Teacher Rating Form and the Student Rating Form consisted of some twenty items indicative of a student's attitude toward school. A student's rating could range from 20 which indicates the poorest attitude to 200 the best attitude for the twenty items used in the form.

Procedures

In selecting students from each participating school, principals followed the same procedure as described in the previous study. The teacher and student forms were administered in the Fall Term of 1962 and again at the end of the Spring Term in 1963.

Results

Preliminary to analyzing the Teacher Rating of Student Attitude Forms, students were matched on age, sex, grade level and initial rating. Matching reduced the total sample to 776 students constituting 388 matched pairs.

Table 116 presents pertinent data concerning the results of the final ratings on the Teacher Rating of Student Forms for the control and experimental groups. In determining statistical significance the appropriate formula for correlated pairs was used.

Table 116

Significance of the Mean Differences in Teacher Rating of Student Attitude Forms for Matched Pairs of Experimental and Control Students

		Experimental		Control				
	Pairs	Mean	S.D.	Mean	S.D.	Diff. (E-C)	"t"	P
7th Grade								
Boys	73	147.7	34.5	144.6	30.1	+3.1	.84	NS
Girls	64	164.2	29.3	161.6	24.9	+2.6	.72	NS
8th Grade								
Boys	47	148.6	30.0	146.8	33.4	+1.8	.34	NS
Girls	68	161.8	29.0	163.1	36.9	-1.3	.43	NS
9th Grade								
Boys	66	150.7	35.5	153.8	28.0	+3.1	.74	NS
Girls	70	168.8	19.3	168.7	19.7	+ .1	.03	NS

No significant differences on final teachers' ratings were found between control and experimental groups for matched boys, matched girls on any grade level.

From the total Student Self-Rating Forms, students were individually matched within the probable error of measurement on initial rating; also on age, sex and grade level. This reduced the total sample to 1,388 students constituting 694 matched pairs. It should be remembered that this is nearly twice the size of the sample used in the Teacher Rating of Student Attitude Study because the teachers rated for only half the class.

Table 117 presents the results of the final score ratings on these Student Self-Rating Forms.

Table 117

Significance of the Mean Differences in Final Student Self-Rating for Matched Pairs of Experimental and Control Students

	Experimental			Control				
	Pairs	Mean	S.D.	Mean	S.D.	Diff. (E-C)	"t"	P
7th Grade								
Boys	128	163.7	19.2	164.0	21.4	-.3	.11	NS
Girls	129	170.2	17.2	170.5	15.7	-.3	.20	NS
8th Grade								
Boys	114	162.6	18.6	161.2	17.0	+1.4	.71	NS
Girls	124	167.8	17.6	171.2	15.7	-3.4	2.04	.05
9th Grade								
Boys	94	163.2	17.3	164.1	18.8	-.9	.43	NS
Girls	105	173.2	14.0	172.5	15.2	+.7	.41	NS

The only statistically significant difference found in final student self-rating was for the eighth year girls where the control girls did better than their experimental counterparts.

Conclusions

For the students of the schools participating in the study it may be concluded that the experimental student did not show different attitudes toward school than the control group as rated by their teachers or by the students themselves. The evidence does indicate that the two groups are functioning at about the same level. These findings are consistent with the findings of the initial study reported earlier in this report.

Summary

This second study evaluated the school attitudes and work habits of the Higher Horizons students as compared to junior high school students in control schools. Students in the seventh, eighth and ninth grades of five pairs of experimental and control schools were employed. Ratings of attitudes based on student self-estimates and teacher estimates of these students were studied. Forms were administered twice, in the fall of 1962 and again at the end of the Spring Term of 1963.

No significant difference on final teacher ratings were found for the two groups equated by matched pairs on initial teacher ratings. Similarly, students matched on initial self-rating scores were not significantly different on final self_estimate except for the eighth grade girls. Here the controls rated themselves somewhat higher than their experimental counterparts.

It may therefore be concluded that experimental as compared to the control students do not rate themselves higher in terms of the items of attitudes examined.

C. ATTENDANCE RATES IN HIGHER HORIZONS AND CONTROL JUNIOR HIGH SCHOOLS

Student attendance rates are an important area of study in an experimental educational program, for attendance influences as well as reflects the efficiency of any school program. Poor attendance may indicate student maladjustment, dissatisfaction, insufficient motivation and achievement, as well as being a reflection of illness and adverse weather conditions.

Attendance rates for schools or groups of schools do not necessarily reflect the complete attendance situation. For example, while a school's average attendance rate is high there may be many individual truants. A comparative study of truancy in the Higher Horizons and Control junior high schools is presented in the following section.

Problem

The purpose of this evaluation was to investigate changes in attendance rates, over a six year interval, for thirteen Higher Horizons and ten control junior high schools. Specifically, the questions to be answered were:

> "Do junior high school students in the Higher Horizons Program exhibit attendance rates which **are** higher than those attendance rates attained by students in comparable non-Higher Horizons junior high schools?"
>
> "Do junior high school students in the Higher Horizons Program exhibit attendance rates which **are** higher than those attendance rates attained by students in the Higher Horizons schools before the schools entered the Program?"

Design

Instrument

The attendance rates were based on the attendance data reported to the Bureau of Educational Program Research and Statistics of the New York City Board of Education at the end of each reporting period. Beginning with September 1958 there are eight reporting periods in an academic year. Attendance is reported in two different ways: Average daily attendance which is calculated by dividing the aggregate attendance by the number of school days in that period. Per cent of attendance, the second measure, is determined by dividing the average daily attendance by the average daily register during a given period. Since comparisons were made for groups of varying sizes over different periods of time, the rate measure, or per cent of attendance was employed. Per cent of attendance rates were calculated for each academic year by adding the aggregate attendance for each period and dividing by the sum of the aggregate registers for those periods.

Population

Annual per cents of attendance were determined for each of thirteen Higher Horizons junior high schools and ten control junior high schools for the years 1957-1958 to 1962-1963. For these years, attendance rates were available separately for grades 7, 8 and 9.

Procedure

The overall attendance rates and their general trends were obtained by comparing total populations - seventh, eighth and ninth grades combined - in Higher Horizons and Control junior high schools. Comparisons were made of attendance rates before and after the introduction of the Program in September 1959, that is, pre- and post-Higher Horizons rates.

Also, successive groups of seventh grade classes entering the Higher Horizons and Control Schools from 1957-1958 to 1962-63 were compared on attendance rate to determine the effect of the Program during its first year of operation.

Attendance rates of two successive groups of students were also compared as they progressed from the seventh to the eighth and into the ninth grades. The first of these groups entered the seventh grade in 1959-60 and completed the ninth grade in 1961-62. The second group started the seventh grade in 1960-61 and were in the ninth grade in 1962-63. These two groups were in Higher Horizons schools during the entire duration of the Program.

Results

Attendance Rates for Higher Horizons and Control Population

The per cent attendance rates for the Higher Horizons and comparable Control junior high schools are presented in Table 118. These percentages are based on grades 7, 8 and 9 combined for the years 1957-58 to 1962-63.

Table 118

Rates of Attendance for the School Years 1957-58 to 1962-63 For Grade 7, 8 and 9 Combined[1]

JHS	Per cent Attendance 1957-58	1958-59	1959-60	1960-61	1961-62	1962-63
Higher Horizons	89.06	90.82	91.21	89.32	89.75	89.33
Control	88.24	90.33	90.38	89.37	89.33	88.44

Table 118 indicates that the attendance rates were higher in the experimental than in the control schools five of the six years included in this study. The average attendance in Higher Horizons schools for 1957 and 1958 was 89.94 per cent and 89.90 per cent for the four years of the Program. The difference between their pre and post rates was negligible, .04 per cent. The average rate for the control populations in the pre-Higher Horizons period was 89.29 per cent as compared to 89.38 per cent in the post period, a difference of .08 per cent. It is evident that the differences in the pre and post rate for both the experimental and control populations were slight.

In the pre-Program period the Higher Horizons population was .65 per cent higher than the comparable controls, that is, 89.94 and 89.29 per cent respectively. In the post period, these rates were practically the same, 89.91 per cent for the Higher Horizons and 89.38 per cent for the controls, a difference of .53 per cent. It may be of interest to note that the median attendance rate for the citywide junior high school population over the period 1957-1958 to 1962-1963 was 90.36 per cent.

Successive Seventh Grade Groups

The attendance rate of successive groups of students entering the seventh grade of Higher Horizons and Control schools from 1957-58 to 1962-63 are compared in Table 119.

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[1] The lowest attendance rates over a 25 year period for all branches of the New York City School system occurred during the 1957-58 and 1958-59 school years; a severe epidemic and severe snowstorms lowered attendance during this time. The attendance rates for 1959-60 showed the highest increase over the previous years and set a 10 year record high for the school system in general.

Table 119

Attendance Rates of Successive Seventh Grade Groups for Each Year From 1957-58 to 1962-63

JHS	Per Cent Attendance 1957-58	1958-59	1959-60	1960-61	1961-62	1962-63
Higher Horizons	90.20	91.72	92.01	89.83	90.26	90.16
Control	88.94	91.53	90.89	89.73	90.35	92.38

From the data in Table 119, the average attendance in the Higher Horizons schools for 1957 and 1958 was computed to be 90.96 per cent and 90.57 per cent for the four year post period, a slight decline of .39 per cent.

The average of the attendance rates of the two pre-Higher Horizons seventh grade groups was 90.86 per cent and that of the two controls, for the same period, 1957-58 to 1958-59, was 90.24 per cent, .62 per cent higher for the experimentals. In the four year period of the Program, the Higher Horizons schools achieved an overall average attendance of 90.57 per cent and the controls 90.84 per cent, .27 per cent higher for the controls. The Higher Horizons schools showed a very slight decline in the post as compared to the pre-Higher period whereas the controls showed a slight increase in average attendance rates.

Populations of Classes Progress from 7th to 9th Grade

Table 120 summarizes the grade progression of the Higher Horizons and Control groups for the years 1957-58 to 1962-63. This table should be read diagonally in order to follow the progress of a particular population through their junior high school career.

Table 120

Grade to Grade Progress for the Pre-Higher Horizons, Higher Horizons and Comparable Controls

	1959-60	1960-61	1961-62	1962-63
HIGHER HORIZONS				
Grade 7	92.01	89.83		
Grade 8		89.38	89.56	
Grade 9			89.41	88.90
CONTROL				
Grade 7	90.89	89.73		
Grade 8		89.44	88.72	
Grade 9			88.94	87.67

In Table 120, it is shown that the first Higher Horizons group which entered the seventh grade in September 1959 achieved attendance percentages of 92.01 for that school year, 89.38 for 1960-61 when they were in the eighth grade and 89.41 in 1961-62 as ninth graders. The average percentages over these years was 90.27. The comparable controls attained rates of 90.89, 89.44, and 88.94 percentages for the same three years, an average of 89.76 per cent. The difference in these two average rates was 0.51 per cent in favor of the Higher Horizons group.

The second Higher Horizon group entering the Program in September 1960 showed rates of 89.83 for 1960-61, 89.56 per cent for 1961-62 as eighth graders and 88.90 per cent as ninth graders, an average of 89.43 per cent. The corresponding controls had rates of 89.73, 88.72 and 87.67 per cents for these three years, an average of 88.71 per cent. The difference in rates between these two groups was 0.72 per cent again favoring the Higher Horizons group.

As was previously pointed out in Table 118 the average pre-Higher Horizons attendance rates for 1957 and 1958, was 89.94 for the pre-Program group and 89.29 for the pre-Program control group, a difference of 0.65 per cent in favor of the pre-Higher Horizons group.

In summary, the difference between the first Higher Horizons and Control populations was .51 per cent in favor of the experimental. The second Higher Horizons and Control populations that were compared also showed a difference in favor of the experiments by .72 per cent. This superiority, however, was also evident in the comparison of pre-Higher Horizons and pre-Program Control groups by .65 per cent.

From the data presented it appears that there were no gains in attendance rates in the experimental schools after as compared to before the introduction of the Program. The slight superiority of the Higher Horizons groups over the controls remained about the same in the post as compared to the pre-Program periods.

Summary

This study attempted to determine the extent to which the Higher Horizons Program improved the attendance of junior high school students. Attendance data for thirteen Higher Horizons and ten comparable control schools were obtained for six consecutive school years 1957 to 1962. These data were collected separately for seventh, eighth and ninth grades as well as for total school pupulations.

It was found that the attendance rates for years 1957-1962 based upon the total school populations tended to be higher in the experimental group. However, the average differences in attendance rates between the groups were no greater for the two years before the Program than for the four years of the Program.

The average attendance rate of two successive groups of seventh grade experimental students were slightly higher than those of corresponding control students for the two years before the introduction of the Program in 1957 and 1958. However, from 1959 to 1962, the period of the Program, the controls showed slightly higher attendance rates than the experimental group.

The attendance rates of two successive groups of students in the experimental and control schools as they progressed from the seventh to the ninth grades were analyzed. It was found, that both Higher Horizons 7th to 9th grade populations averaged higher attendance rates than their corresponding controls. However, a comparison of the average rates of the pre-Higher Horizons populations with their comparable pre-Program controls also showed about the same difference in rates. In effect, no change in attendance rates were discerned among the compared groups in pre-and post Higher Horizons periods.

Conclusion

In general it would appear that the Program had no appreciable effect on the attendance rates of the Higher Horizons students other than to maintain the slight superiority held by the pre-Higher Horizons students over pre-Program controls.

D. COMPARISON OF TRUANCY AND SUSPENSION RATES IN JUNIOR HIGH SCHOOLS

Problem

The present investigation is concerned with truancy and suspension in the participating junior high schools in the Higher Horizons Program. In order to fulfill its many objectives the Program is concerned with truancy and suspension as problems of both attendance and discipline.

The specific problem under study was

> "Are junior high school students in the experimental group involved in fewer disciplinary problems, as measured by the number of suspension and truancy cases reported, than students in comparable control groups and in the same schools during years prior to the Higher Horizons project?"

Design

Population

Truancy and suspension rates for the thirteen Higher Horizons and ten comparable control junior high schools were analyzed. Since there are many variables and dimensions in the definitions and measurements of truancy and suspension, it was decided to neutralize, as much as possible, the effects of the local school administrations, the personalities of the administrations and the nature of the school population, by making comparisons between the same schools before and after the Program was in effect. The comparisons which follow are based on data for the Higher Horizons schools in 1958-59, (pre-control), 1959-60 (original year of Program). In order to make the comparisons more meaningful, data for ten comparable control schools will be presented for those years.

Instruments

This study does not deal with cases of truancy, or illegal absenteeism only, but rather with the total number of absentee referrals. For the purpose of this study, estimates of truancy were based on the number of 407 and 408 forms reported to the Board of Education. The Attendance Officer's Investigation and Report Form 407 is used by the schools for the first absentee referral; the Attendance Officer's Investigation and Report Form 408 is used by the schools for all absentee referrals subsequent to the first referral. If the absence continues after Form 408 is filed no new form is indicated. However, the case of an interrupted absence is to be treated as a new absence.

Forms 407 and 408 are filled out by the teacher. These referrals of absentees to the Bureau of Attendance indicate those cases where the school has tried, but has been unsuccessful in obtaining a satisfactory explanation or adjustment, and those cases suspected or known to be unlawful. The Attendance Officer assigned to the case then decided if the absence is lawful or unlawful. If a child who is physically and mentally able to attend school absents himself without the knowledge or consent of his parents, the absence is unlawful and the child is a truant.

Thus the number of 407-408 forms filed by the schools at the Bureau of Attendance is not a measure of truancy, since it includes all lawful absenteeism as well. In addition it is important to bear in mind that a single child may have several forms filed, and also that for each case of truancy both a 407 and a 408 form have been recorded.

The definition of suspension is "the temporary cessation of a pupil's public school attendance as directed by an assistant superintendent." The authority to suspend a junior high school student is delegated by the superintendent of schools to the principal; the responsibility or disposition is delegated by the superintendent of schools to the local or field superintendent. For the following comparisons, suspensions are defined by the number of hearings before the district superintendent.

A suspension hearing may be called when (1) a pupil is insubordinate, abusive or disorderly, (2) when pupil's physical or mental condition endangers the health, safety or morals of other minors, or (3) when the pupil is believed to be feeble-minded to the extent that he cannot profit from instruction. The hearing is to be conducted within ten school days of the start of the action.

It was impossible to determine, from the Bureau of Attendance records, which figures are cumulative over time and which are actually distinct cases. In addition, all types of suspension, medical, discipline, etc., are grouped together.

Procedure.

The suspension and absentee referral figures were collected for the years 1958-59 to 1962-63, and came from two sources, the Bureau of Attendance and the participating individual junior high schools. In April 1962 and in May 1963 the principals of thirteen Higher Horizons and ten control junior high schools were asked to submit separately for grades 7, 8 and 9, the number of 407-408 forms filed, the number of divisional hearings for truancy and the number of formal suspension hearings.

The number of suspension and absentee referrals cases per thousand students were computed for each of five years. Because of the nature of the available data, only gross comparisons were made.

Results

Number of Absentee Referrals

Table 121 summarizes the number of referrals per thousand students, for grades 7, 8 and 9 combined, for the years 1958-59 to 1962-63. The figures are averages based on the thirteen Higher Horizons and ten comparable control groups of schools. In the control group of schools there is a year by year increase in the number of referrals per thousand students. In the Higher Horizons group the number of referrals per thousand fluctuates from year to year, although the rate is always higher than the rate in the control schools. In 1958-59, the year before the initiation of the experimental program the referral rates were 641.4 and 489.0 for the experimental and control group, respectively. In 1959-60 the Higher Horizons schools' rate per thousand dropped sharply, and only temporarily.

Table 121

Comparison of the Number of Referrals Per Thousand Students In the Higher Horizons and Control Junior High Schools

JHS	Number of Referrals Per Thousand Students 1958-59*	1959-60	1960-61	1961-62	1962-63
Higher Horizons	641.4	554.6	636.3	714.0	703.5**
Control	489.0	504.8	517.4	554.3	560.2

* The year prior to the initiation of the Higher Horizons Program.
** Based on 9 schools.

In 1961-62, when the Program was operative at all grades, the number of referrals per thousand Higher Horizons students, was at its highest - and highest compared with the rate in the comparable schools. There was wide variation between schools in number of referrals, but the individual schools generally tended to maintain their relative rank with respect to each other over the years investigated in this report.

A rank-order comparison between number of referrals per thousand students and attendance staff assigned per thousand students in each of the thirteen Higher Horizons junior high schools was computed for the school years 1958-59, 1959-60, 1960-61, 1961-62, and 1962-63. The rhos were +.34, +.75, +.28, +.70 and +.44 respectively. A positive rho indicates an increase in number of referrals with an increase in attendance staff assigned. Thus, increased attention paid to "truancy," in terms of additional personnel, tends to result in an apparent increase in number of reported referrals.

There was an average of .85 attendance staff assigned per thousand students in 1958-59 in the pre-Higher Horizons schools; in 1959-60 attendance staff per thousand students declined to an average of .74. With this decrease in staff there was also a decrease in the number of 407-408 referrals per thousand students from 641 referrals per thousand in 1958-59 to 555 referrals per thousand in 1959-60. During this period there was an increase in forms per thousand students in the comparable control schools. In 1960-61 the Higher Horizons groups of schools greatly increased the number of forms filed per thousand students and the attendance staff per thousand students also increased. In 1961-62 the experimental program had been extended to all grades and again in this year there was an increase in 407-408 forms filed.

It is postulated that this apparent increase in number of referrals may not be due to an increase in unlawful absence, but rather may reflect increased efforts and attentions of the professional staff members to identify individuals, to develop and use new methods and techniques, to increased utilization of school facilities and personnel as well as a developed awareness of available guidance services.

Number of Formal Suspension Hearings

In Table 122 the average number of formal suspension hearings for the groups of Higher Horizons and control schools are presented for the five year school period being investigated.

The average number of formal hearing per thousand students in 1958-59 was 6.48 for the pre-Higher Horizons and 6.18 for the comparable controls. In 1959-60, both groups showed a decrease which was greater for the experimental than the control group. By 1960-61 the number of suspension hearings per thousand Higher Horizons students was at a low of 3.63 while the control group exhibited an increase. In 1961-62 both groups nearly doubled the number of formal suspension hearings per thousand students as compared with the previous year.

Table 122

Comparison of the Number of Suspension Hearings Per Thousand Students
In the Higher Horizons and Control Junior High Schools

JHS	Number of Hearings Per Thousand Students 1958-59	1959-60	1960-61	1961-62	1962-63
Higher Horizons	6.48	4.55	3.63	6.62	7.84
Control	6.18	5.14	5.64	10.14	7.85

While truancy and suspensions may both be classified as behavior problems it is important to bear in mind that they differ from one another in several dimensions. Truancy proceedings are directly initiated by the classroom and attendance teacher, by-passing the principals; suspension proceedings, although initiated by any and all staff members, must proceed through the principal and field superintendents. In addition, truancy is automatically processed while the individual principal and district superintendents' policies may permit disposition of suspensions in ways other than formal hearings, although causes for suspension are clearly defined. Thus the number of absentee referral forms filed may directly reflect school policy, attitude and care and attention to detail. It is within the stated goals of the Higher Horizons Program to effect positive change in these areas.

CONCLUSIONS

In general, it may be concluded that a higher rate of absentee referrals are filed by Higher Horizons junior high schools as compared with comparable non-Higher Horizons Control schools. When the number of referrals in the Higher Horizons groups of schools are compared to the number of referrals in the same schools during the year prior to the start of the program there was an initial decrease followed by an increase in absentee referrals per thousand students.

The Higher Horizons junior high schools have a lower rate of suspension per thousand students than the comparable non-Higher Horizons group of schools and a rate lower than that in the same Higher Horizons schools the year prior to the start of the Program.

Summary

It was hypothesized that junior high school students in the experimental group would be involved in a fewer number of suspension and truancy cases reported than students in the same schools the year before the initiation of the Higher Horizons Program. In this study the control was extended to include not only the same thirteen junior high schools during the year prior to the start of the Higher Horizons Program, but, in addition, the ten comparable junior high schools matched on size, ethnic distribution, and I.Q.

Truancy was estimated by the number of 407-408 referral forms filed for each of the junior high schools for the years 1958-59 to 1962-63. The difficulties of evaluating truancy from this type of data was discussed and led to the postulation by another hypothesis: The apparent increase in number of referral forms filed per thousand students reflects the increased attention of teachers and other professional personnel to the attendance and disciplinary aspects of truancy behavior.

The comparisons of suspension were based on data concerning the number of formal hearings held before the district superintendent. These figures include medical (physical and mental) suspensions, abusive conduct and feeblemindedness. It was assumed that frequency rates of medical and mental suspensions were about the same in the two groups of schools.

In general, the experimental group had fewer absentee referrals than did the pre-Higher Horizons group and a slightly greater number per thousand students than the comparable control group. However, this initial decrease was temporary and during the subsequent years the Higher Horizons group had more absentee referrals than either of the two control groups.

On the other hand, throughout the period investigated the number of suspension hearings was lower in the Higher Horizons group than in the comparable control group.

In general, suspension rates for the experimental students over the period studied were consistently lower as compared to those for the comparable control groups. However, absence referral rates tend to be higher among the Higher Horizons schools. This increase seems to be related to the greater number of professional personnel in the Higher Horizons schools concerned with attendance and discipline.

E. SOCIAL RELATIONSHIPS AMONG HIGHER HORIZONS AND CONTROL JUNIOR HIGH SCHOOL STUDENTS

Problem

The aspect of social relationships under study was from the point of view of better adjustment to and acceptance by the peer group. Specifically, the question investigated was:

> "Do junior high school students in Higher Horizons schools exhibit greater interpeer acceptance, as measured with a sociometric procedure, than students in comparable control schools?"

The effects of the Higher Horizons program on social acceptance was studied employing students both in the seventh and ninth grades.

Design

Population

In a sociometric study, ethnic composition could be a significant source of variation; it was decided, therefore, to select sample schools from the available Higher Horizons and control group of schools, so that the schools would be closely matched in ethnic composition. Five pairs of matched schools were selected which are representative of the total Higher Horizons and Control groups: Pairs I-Q, A-R, F-T, L-Y, M-S.

Four seventh grade classes and four ninth grade classes were chosen from each school. The guidance counselor, or teacher-in-charge of school testing selected four classes to meet the following criteria: No non-English speaking classes and no SP classes were to be included; and the classes must have an average reading grade of approximately 4.5. From the classes fulfilling these criteria, four were randomly selected so that they represented the remaining eligible classes. There were a total of 40 seventh grade (20HH and 20C) classes and 40 ninth grade (20 HH and 20C) classes at the time of the initial administration of the sociometric scale. SP refers to classes for bright students.

Instrument

The revised[1] edition of the Ohio Social Acceptance Scale was used in this study. This scale is a "group test approach for assessing the quality of social acceptance within a class. The Ohio scale requires each student to rate each classmate on a five point scale as follows: (1) very, very best friends

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[1] The Bureau of Educational Research of The Board of Education of the City of New York revised the Social Acceptance Scale developed by Dr. Louis Raths formerly of Ohio State University.

(2) good friends (3) not friends but okay (4) you don't know them (5) you know them but are not friends and not okay to you."[1] Theoretically, these values represent degrees of peer acceptance; scale values of 1 and 2 indicate peer acceptance, 3 is considered neutral, while values of 4 and 5 are indicative of peer rejection. The lower the rating, the better the peer acceptance.

All children are provided with a list containing the names of all the students in the class. He is required to assign a rating of 1 through 5 to each classmate on the list. When a child comes to his own name he is directed to rate himself as he thinks most of his classmates will rate him. The directions to rate himself as he thinks others will rate him is a reflection of how he feels about himself in relation to his peer group. In these terms the rating which a student assigns to himself may be considered as one indication of his self-image.

Procedure

The Ohio Social Acceptance Scale was administered twice to the selected classes of students in the Higher Horizons and Control schools. The initial administration was scheduled for the week of October 30, 1961, about two months after the beginning of the term; the final administration was six months later, during May, 1962. It was felt that this six month interval between administrations was ample time for the students to form reliable classroom social relationships and for any differences in classroom climate in the experimental and control schools to become observable.

The October 1961 scores were used for initially equating the groups. Comparisons between their May 1962 scores were made. When the two groups were found to be initially equated, they were compared for significant differences on the final score. However, in cases where the groups were not found to be initially equated the analysis of covariance method was used to compare the groups on adjusted final scores.

Since this study was primarily concerned with the overall peer acceptance "climate" of a class, and changes in this climate over time, the Scale was scored to yield a mean acceptance score for each class for both the initial and final administrations. The mean score, ranging from 1-5 is an average of the ratings that the students in the class gave to the other students in the class, excluding self-ratings. Only the ratings of those students who took both administrations were computed in the average class score. Approximately 80% of all students in both groups took the Scale twice. Attrition was due to absence from either administration, reorganization of classes, unusable scale records, and of course, transferring out of the school. In addition to the total interpeer acceptance mean class score, a mean self-rating score for each class was also obtained.

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[1] Forlano, G. and Wrightstone, J.W., Measuring the Quality of Social Acceptability Within a Class, Educ. and Psychol. Measure., 15, No. 2, 1955, pp. 127-136.

Results

Comparisons of Seventh Grade Higher Horizons and Control Classes

Table 123 summarizes the results of the comparisons between the average class social acceptance score for the seventh grade classes in the five paired experimental and control schools. Since the groups were not initially equated, analysis of covariance was used. The mean difference in adjusted scores for the final administration was .09 points which was not statistically significant.

Table 123

Comparison of the Average Class Ohio Scores for the Seventh Grade Classes in the Five Matched Pairs of Schools

	Experimental	Control	Diff. (E-C)	P
Number of Classes	19	20		
First Administration	2.55	2.73		
Second Administration	2.41	2.53		
Second Administration (Adj.)	2.49	2.58	- .09	NS

Table 124 presents the average self-rating scores for the experimental and control seventh grade classes. These mean scores are based on the student's projected rating of himself. The self-rating scores tend to be lower than the class ratings, indicating a greater degree of acceptance of self than of the corresponding peer group. A more detailed comparison between self scores and peer group scores will be presented below.

Table 124

Comparison of the Average Self-Rating Ohio Scores for the Seventh Grade Classes in the Five Matched Pairs of Schools

Number	Experimental	Control	Diff. (E-C)	P
Number of Classes	19	20		
First Administration	2.19	2.19		
Second Administration	2.12	2.21	- .09	NS

In the seventh grade the experimental and control groups were found to be equated on the initial administration of the Scale. Six months later, at the time of the second administration, although there is an observed difference between the groups, this difference was not of statistical significance. There is a tendency for the Higher Horizons seventh graders to exhibit a positive improvement in self-acceptance of .07 points, while the quality of self-acceptance among the control students tends to become poorer. However, these differences between administrations are not statistically significant for either the Higher Horizons or Control classes.

Comparisons Between the Ninth Grade Higher Horizons and Control Classes

The results of the comparison between the ninth grade classes in the five pairs of Higher Horizons and Control schools are presented in Table125. There was no difference in mean class social acceptance scores at the initial administration. However, the difference in mean score between the experimental and control classes on the final administration was .07 which did not reach statistical significance.

Table 125

Comparison of the Average Class Ohio Scores for the Ninth Grade Classes in the Five Matched Pairs of Schools

	Experimental	Control	Diff. (E-C)	P
Number of Classes	19	20		
First Administration	2.58	2.59		
Second Administration	2.35	2.42	- .07	NS

Table 126, summarizes the comparison of the Self-Rating scores for the ninth grade Higher Horizons and Control classes.

Table 126

Comparison of the Average Self-Rating Ohio Scores for the Ninth Grade Classes In the Five Matched Pairs of Schools

	Experimental	Control	Diff. (E-C)	P
Number of Classes	19	19		
First Administration	2.34	2.34		
Second Administration	2.36	2.28	.06	NS

No significant difference in mean self-rating scores was found at the first administration for the Higher Horizons and Control classes at the ninth grade level. On the final administration the mean difference of .06 points between the groups was not statistically significant.

Conclusions

It can be concluded that although there is no difference in performance, or change in performance, as measured by the Ohio Social Acceptance Scale, both the Higher Horizons and Control classes exhibit adequate peer-acceptance. Their interpeer acceptance scores average between 2.73 and 2.35 which falls between the scale rating of "(2), good friends, and (3), not friends but okay."

Summary

The Ohio Social Acceptance Scale, a sociometric instrument, was used to measure changes in class peer relationships. The Scale was administered twice over a six month interval. Seventh grade and ninth grade classes in Higher Horizons and Control schools were tested. Five pairs of schools were selected and matched on background characteristics, notably ethnic composition. An overall average class social acceptance score was obtained for each administration. In addition, an average class self-rating score was determined. Differences between the Higher Horizons and Control schools were computed and tested for significance.

There were no significant differences after a six month interval between the experimental Higher Horizons and Control groups of seventh or ninth grade classes. The experimental program produced no significant indication of improved acceptance of the peer group or of the self-concept, over and above that change exhibited by the Control group.

F. COMPARISON OF THE EDUCATIONAL-VOCATIONAL ASPIRATION LEVELS OF HIGHER HORIZONS AND CONTROL SCHOOL STUDENTS IN THE JUNIOR HIGH SCHOOL OVER A TWO YEAR PERIOD

Problem

The major problem of this study was to determine whether, over a period of two school years, from the beginning of grade seven to the end of grade eight, students in the Higher Horizons Program would show greater growth in educational-vocational aspiration than would their control counterparts.

Design

Population

There were ten schools involved in the study; five Higher Horizons and five Control. The experimental and control schools were matched on the bases of school size, per cent of regular teachers, ethnic composition, intelligence quotient and reading grade. The matched schools were I-Q, F-T, L-Y, A-R, M-S.

There were 936 students involved. They were in the seventh grade when the study began in September 1961 and in the eighth grade when it ended in May 1963.

Instruments

The device used to gather data for this study was developed by the Bureau of Educational Research. It is called the "Educational-Vocational Checklist" and has two forms - one for boys and one for girls. Copies of these instruments are presented in Appendix K.

The instrument consists of a series of questions which cover the following areas: Occupational Choice, High School Choice, Educational Plans; Kind of Work I'd Like to Do; Kind of Work I Think I'll Do.

The questions covering the various areas are as follows:

Occupational Choice - - - - - - - - - - -- Question I-X
High School Choice - - - - - - - - - - - - -- Question XII
Educational Plans - - - - - - - - - - - - -- Question XIII
Kind of Work I'd Like to Do - - - - - - -- Question XIV
Kind of Work I Think I'll Do - - - - - - -- Question XV

Data on Question XI on how the student felt about school have been omitted from the report. Since there were statistically significant differences between the experimental and control groups at the seventh grade level, no comparisons were made at the eighth grade level.

Procedure

In October 1961, the Educational - Vocational Checklist was administered to five seventh grade classes in each of the ten participating junior high schools. These five classes represented the reading spectrum of the seventh grade within a school, with this exception: no class in which more than ten percent of the students were reading below 4.5 was used in the study.

In May 1963, the checklist was again administered in the same classes where it had been administered seventeen school-months before, in October 1961.

Only those students who had been present for both administrations of the checklist were used in the final evaluation.

Statistical techniques, specifically the t - test and chi-square, were applied to the data to ascertain the equivalence of the experimental and control groups on the initial testing.

Statistical techniques were again used to determine if, after the experimental group had been exposed to the Higher Horizons Program for a period of seventeen school-months, there were any differences in aspects of educational-vocational aspiration between the experimental and control groups.

Results

1. The Occupational Choice Scale

The Occupational Choice Scale is composed of fifty job titles divided into ten sets. Within each set are five titles representing levels of occupations with values adopted from the Dictionary of Occupational Titles, as follows:

Professional	5
Semi-professional	4
Skilled	3
Semi-skilled	2
Unskilled	1

The respondent chooses one from each set, for a total of ten choices. His score, therefore, may range from 10, all unskilled choices to 50 all professional choices.

A comparison of the experimental and control groups were found to be equal on the initial administration of the Occupational Choice Scale. Table 127 presents the final comparisons between the experimental and control groups by sex on the Occupational Choice Scale.

Table 127

Comparison between Experimental and Control Students on Final Administration of the Occupational Choice Scale

	Experimental			Control			Diff.		
	N	Mean	S.D.	N.	Mean	S.D.	(E-C)	t	P
Boys	238	37.78	5.07	217	37.42	5.70	+ .36	.71	NS
Girls	234	33.65	5.80	247	34.18	5.81	- .53	1.00	NS
Total	472	35.73	6.19	464	35.70	5.98	+ .03	.08	NS

As Table 127 indicates there were no statistically significant differences on the final administration of Occupational Choice Scale between the Higher Horizons and Control School students.

2. High School Choice

As indicated earlier, data on High School Choice comes from question XII of the Educational-Vocational checklist. Students were asked to check the courses they would like to take in High School: Academic, Commercial, Vocational, or "I Don't Know Yet" - since students in grade 7 and 8 frequently have not yet made up their minds on the matter. First it was found that the two groups were not significantly different in patterns of high school choices.

Table 128 presents comparisons between the Higher Horizons and Control groups on the final responses as to high school choice.

Table 128

Final Comparison between Experimental and Control School Students on High School Choice

	N	Acad.	Comm.	Voc.	Don't Know	X^2	P
Boys							
Experimental	238	136	14	65	23	3.01	NS
Control	217	125	11	50	31		
Girls							
Experimental	234	97	74	40	23	2.08	NS
Control	247	105	74	35	33		
Total							
Experimental	472	233	88	105	46	5.05	NS
Control	464	230	85	85	64		

Table 128 shows no significant difference between the boys, the girls and the combined groups with respect to final pattern of high school choices. In other words, the Higher Horizons Program did not affect the high school choice of its students to the point where they become significantly different from their control counterparts.

3. Educational Plans

Table 129 presents data on the Educational Plans of experimental and control school students. It should be noted that while there were four choices on Question XIII, Educational Plans offered to the students on the checklist, the data are presented in only two categories -work and college. This was done because so few children selected choices 1 and 3 that they could very meaningfully be combined with 2 and 4 to yield "job oriented" and "college oriented" choices.

Again, the two groups were not initially different with respect to educational plans. Table 129 compares these groups on their final choices of educational plan.

Table 129

Final Comparisons between Experimental and Control School Students on Educational Plans

	N	Work	College	X^2	P
Boys					
Experimental	238	45	193	.00	NS
Control	217	41	176		
Girls					
Experimental	234	63	171	.02	NS
Control	247	68	179		
Total					
Experimental	472	108	364	.05	NS
Control	464	109	355		

As revealed in Table 129 there were no statistically significant differences in Education Plans between the Higher Horizons and Control school students at the end of the experimental period.

4. Kind of Work I'd Like to Do

The data came from student responses to question XIV on the checklist. In response to question XIV, each student wrote in a job title. These titles were rated on a 1 to 5 scale employing the same method used in rating student responses on The Occupational Choice scale. Experimental and control groups were not significantly different in initial scores. Table 130 presents data on final responses on the "Kind of Work I'd Like to Do".

Table 130

Final Comparisons between Experimental and Control School Students on Kind of Work I'd Like to Do

	N	Mean	S.D.	M. Diff.	t	P
Boys						
Experimental	238	4.10	1.01	.19	1.90	NS
Control	217	3.91	1.04			
Girls						
Experimental	234	4.09	1.02	.13	1.30	NS
Control	247	3.96	1.06			
Total						
Experimental	472	4.10	1.02	.16	2.29	.05
Control	464	3.94	1.05			

Table 130 indicates that neither the Higher Horizons boys nor the Higher Horizons girls separately were significantly different than their control counterparts on "Kind of Work I'd Like to Do", at the time of final testing. However, when taken as a total group, the experimental group chose occupations at a higher level than the control group.

5. Kind of Work I Think I'll Do

In response to question XV, "What kind of work do you think you really will do?", each student again wrote in a job title. These were rated by the same method as the responses to question XIV.

It was found that the two groups as well as the boys and girls composing them were found to be equal on mean initial job title ratings. Table 131 presents a comparison of the mean final job title ratings of the experimental and control students.

Table 131

Final Comparisons between Experimental and Control School Students on Kind of Work I Think I'll Do

	N	Mean	S.D.	M.Diff.	t	P
Boys						
Experimental	238	3.97	1.11	.18	1.8	NS
Control	217	3.79	1.05			
Girls						
Experimental	234	3.84	1.16	.15	1.50	NS
Control	247	3.69	1.19			
Total						
Experimental	472	3.90	1.14	.17	2.12	.05
Control	464	3.73	1.13			

Table 131 indicates that neither the boys nor the girls in the Higher Horizons schools were significantly different from their control counterparts on the final job title ratings. However, when compared as total groups, the experimental students choices were significantly higher in job titles than the control students.

Conclusions

From the findings in this study, it appears that the vocational and educational choices of the Higher Horizons students were at the same level as those of the control students. However, where students were given a free choice in an unstructured approach, the experimental group as a whole expressed higher vocational aspirations than the controls.

Summary

The purpose of this study was to determine whether, over a period of two school years, from the beginning of grade 7 to the end of grade 8, students in the Higher Horizons Program would show greater growth in educational-vocational aspiration than would their control counterparts.

The instrument used to gather data for this study was devised by the Bureau of Educational Research and called the "Educational-Vocational Checklist". It was administered twice, in September 1961 when the students were in grade 7, and in May 1963 when they were in grade 8. There were 936 students involved.

The "Educational-Vocational Checklist" yielded scores in five areas: Occupational Choice; High School Choice; Educational Plans; Kind of Work I'd Like to Do; and, Kind of Work I Think I'll Do.

Students in the experimental and control groups were found to be equated on these variables initially. When final measurements were taken, only two statistically significant differences were noted; the Higher Horizons total group, that is, boys plus girls, scored higher on "Kind of Work I'd Like to Do" than did their control counterparts; the Higher Horizons group also scored higher on "Kind of Work I Think I'll Do."

It may therefore be concluded that the vocational-educational choices of the Higher Horizons students were at the same level as those of the control students. However, where students were given a free choice in an unstructured approach, the experimental group as a whole expressed higher vocational aspirations than the controls. As between the structured and unstructured approaches the latter may be considered the more direct and adequate one.

G. COMPARISON BETWEEN THE EDUCATIONAL - VOCATIONAL ASPIRATION LEVEL OF JUNIOR HIGH SCHOOL HIGHER HORIZONS AND CONTROL SCHOOL NINTH GRADE STUDENTS AND THEIR PARENTS

Problem

The major purpose of this study was to discover answers to the following questions:

1. In a three year period (September 1959 to June 1962) as the students progressed from seventh through ninth grade, would the educational-vocational aspiration level of the Higher Horizons students be raised above that of their control counterparts?
2. In this same period, would the level of educational-vocational aspiration held by the parents of these Higher Horizons students be raised above that of their control counterparts?

Design

Population

There were ten junior high schools involved in the study; five Higher Horizons and five control, paired as follows: I-Q, F-T, L-Y, A-R, M-S.

There were 1204 ninth-grade students and 1023 parents of ninth-grade students used in the study. These students entered the ninth grade in September 1961.

Instruments

Two basic instruments were developed by the Bureau of Educational Research for use in this study: the Educational-Vocational Checklist which was employed in the previous study, F. The other is the Parent Questionnaire Because of the language differences, the questionnaire was prepared in Spanish and English. Copies of these instruments are found in Appendix L

Both the Parent Questionnaire and the Educational-Vocational Checklist contained the following common elements - the Occupational Choice Scale, High School Choice and Educational Plans. Two items of the Educational-Vocational Checklist namely, Kind of Work I'd Like to Do and Kind of Work I Think I'll Do, did not appear in the Parent Questionnaire.

Procedure

In order to compare the changes in educational-vocational aspiration level of ninth grades over a three year period (September 1959 to June 1962) it was necessary to equate the Higher Horizons and Control groups at the start of the period, September 1959, when the students were in the seventh grade. However, since the Bureau of Educational Research was not scheduled to begin its formal evaluation until June 1961, such equating could not be done directly. It became necessary therefore, to use an indirect method. Therefore a preliminary study was undertaken with the seventh grade students entering their respective schools in September 1961.

It was assumed that students entering the seven grade in the ten junior high schools in September 1961 would not be significantly different in educational-vocational aspiration from students who entered the seventh grade of those same schools in September 1959. Therefore, the Educational-Vocational Checklist was administered, in September 1961, to students entering the seventh grade in the ten junior high schools, five Higher Horizons, five Control. When these data were analyzed it was found that no statistically significant differences existed between the experimental and control groups except for Question 11, which deals with how students feel about school. Item 11 was omitted from further analysis. Having shown equality on the Checklist at least between entering seventh graders in the Higher Horizons and Control schools in 1961, it was assumed that equality also existed in the ninth grade Higher Horizons and Control school students in 1959.

Therefore, in June 1962, the Educational-Vocational Checklist was administered to all ninth grade students in the study, and the Parent Questionnaire was administered to their parents.

All data and tables in this report are concerned with results of the ninth grade testing that is, the June 1962 administration of the Educational-Vocational Checklist and Parent Questionnaire.

In analyzing the data, both the "t" test technique and chi-square were used.

Results

Occupational Choice Scale: Students

Table 132 presents a comparison of Higher Horizons and Control students on the Occupational Choice Scale.

Table 132

Comparison of Mean Scores of Ninth Grade Higher Horizons and Control Students on the Occupational Choice Scale

	N	Mean	SD	M diff.	t	P
Boys Exp.	280	37.86	6.47	.70	1.33	NS
Boys Control	261	38.56	5.73			
Girls Exp.	345	34.94	6.94	1.38	2.59	.01
Girls Control	318	36.32	6.75			
Total Exp.	625	36.25	6.89	1.08	2.81	.01
Total Control	579	37.33	6.41			

Examination of Table 132 reveals that: There were no statistically significant differences between the Higher Horizons and Control boys. The Control girls, with a mean score of 36.32, were significantly higher than the Higher Horizons girls whose mean score was 34.94. The total Control group, whose mean score was 37.33, was significantly higher than the Higher Horizons group whose mean score was 36.25. The differences are small but statistically significant.

High School Choice: Students

Table 133 presents the results of chi-square analysis on data on high school choice of ninth grade students.

Table 133

Chi-Square Comparisons Between Ninth Grade Higher Horizons and Control Students on High School Choice

	N	Academic	Commercial	Vocational	X^2	P
Higher Horizons Boys	276	171	26	79	1.32	NS
Control Boys	249	142	26	81		
Higher Horizons Girls	349	177	120	44	4.94	NS
Control Girls	312	184	102	26		
H.H. Total	617	348	146	123	.35	NS
Control Total	561	326	128	107		

Table 133 shows that there were no statistically significant differences regarding high school choice between the Higher Horizons and Control students at the end of the ninth grade.

Educational Plans: Students

Table 134 presents data on ninth grade student educational plans.

Table 134

Chi-Square Comparisons Between Ninth Grade Higher Horizons and Control Students on Educational Plans

	N	(1)*	(2)**	X^2	P
H.H. Boys	280	72	208		
				0	NS
Cont. Boys	261	67	194		
H.H. Girls	345	103	242		
				7.22	.01
Cont. Girls	318	66	252		
H.H. Total	625	175	450		
				3.99	.05
Cont. Total	579	133	446		

*Column (1) represents two items: Quit school before finishing high school, and get a job; finish high school and then get a job - (Job-oriented).

**Column (2) represents two items; finish high school, work for a year or two, and then go to college; finish high school and then go directly to college - (college-oriented).

Examination of Table 134 reveals the following facts:

There were no statistically significant differences between the Higher Horizons and Control boys. A significantly higher proportion of Control girls expressed a desire to go to college than did Higher Horizons girls. A significantly higher proportion of the total Control group expressed a desire to go to college than did the total Higher Horizons group.

Kind of Work I'd Like to Do: Students

Examination of Table 135 shows that there are no significant differences between ninth grade Higher Horizons and Control students in the kind of work they would like to do for a livelihood.

Table 135

Comparison of Mean Scores of Ninth Grade Higher Horizons and Control Students on Kind of Work I'd Like to Do

	N	Mean	SD	M diff.	t	P
Boys Exp.	280	3.89	1.04	.04	.45	NS
Boys Control	261	3.93	1.02			
Girls Exp.	345	3.99	1.09	.03	.36	NS
Girls Control	318	4.02	1.07			
Total Exp.	625	3.95	1.05	.03	.50	NS
Total Control	579	3.98	1.04			

Kind of Work I Think I'll Do; Students

Table 136 indicates no significant differences between Higher Horizons and Control students in the kind of work they think they will do for a livelihood.

Table 136

Comparison of Mean Scores of Ninth Grade Higher Horizons and Control Students on Kind of Work I Think I'll Do

	N	Mean	SD	M diff.	t	P
Boys Exp.	280	3.59	1.16	.12	1.30	NS
Boys Control	261	3.71	1.01			
Girls Exp.	345	3.79	1.15	.05	.55	NS
Girls Control	318	3.74	1.18			
Total Exp.	625	3.70	1.16	.03	.46	NS
Total Control	579	3.73	1.10			

Occupational Choice Scale: Parents

Tables 137, 138, and 139 present data derived from the Parent Questionnaire which was administered to the parents of ninth grade students in Higher Horizons and Control schools. The questionnaire was completed by 86 per cent of the Higher Horizons parents and by 83 per cent of the Control parents.

Table 137 presents the data for ninth grade parents on the Occupational Choice Scale.

Table 137

Comparisons of Mean Scores of Ninth Grade Higher Horizons and Control Parents on the Occupational Choice Scale

	N	Mean	SD	M diff.	t	P
Sons Exp.	225	40.28	6.66	.31	.84	NS
Sons Control	204	39.97	5.88			
Daughters Exp.	315	37.20	7.12	.55	.95	NS
Daughters Control	297	37.75	6.96			
Total Exp.	540	38.48	7.09	.20	.46	NS
Total Control	483	38.68	6.62			

Table 137 indicates that there is no significant difference in the vocational aspiration of ninth grade parents for their children, whether they are in Higher Horizons or non-Higher Horizons schools.

High School Choice: Parents

Table 138 presents the data on High School Choice for their sons and daughters as given by the parents of the ninth grade students.

Table 138

Chi-Square Comparisons Between Ninth Grade Higher Horizons and Control Parents on High School Choice

	N	Academic	Commercial	Vocational	X^2	P
H.H. Sons	216	144	38	34	9.24	.01
Cont. Sons	198	125	21	52		
H,H. Daughters	313	172	108	33	2.49	NS
Control Daughters	277	159	99	19		
H.H. Total	529	316	146	67	1.46	NS
Control Total	475	284	120	71		

Examination of Table 138 reveals that proportionately more Higher Horizons parents aspire to have their sons attend an academic or commercial high school, whereas proportionately more Control parents aspire to have their sons attend a vocational high school. No significant difference between Higher Horizons and Control parents in terms of High School Choice for their daughters was found. As total groups, both Higher Horizons and Control parents aspire to the same pattern of High School Choice for their children.

Educational Plans: Parents

Table 139 presents the parent data on ninth grade educational plans for their sons and daughters in the ninth grade.

Table 139

Chi-Square Comparisons Between Ninth Grade Higher Horizons and Control Parents on Educational Plans

	N	(1)*	(2)**	X^2	P
H.H. Sons	225	39	186	2.93	NS
Cont. Sons	204	49	155		
H.H. Duaghters	315	63	252	.02	NS
Cont. Daughters	279	57	222		
H.H. Total	540	102	438	1.50	NS
Cont. Total	483	106	377		

*Column (1) represents two items: Quit school before finishing high school, and get a job; finish high school and then get a job - (Job-oriented).

**Column (2) represents two items: Finish high school, work for a year or two, and then go to college; finish high school and then go directly to college - (College-oriented).

As Table 139 indicates, there are no significant differences between Higher Horizons and Control parents in educational plans for their sons and daughters.

Conclusions

Under the conditions of this study, it may be concluded that in general no significant differences in vocational aspiration exist between Higher Horizons and Control groups after an experimental period of three school years except that more Higher Horizons parents aspire to have their sons attend an academic or commercial high school as compared to the Control parents.

Summary

Over one thousand ninth grade students in five Higher Horizons and five Control junior high schools and their parents were involved. Two instruments were used to gather data; the Educational - Vocational Checklist and the Parent Questionnaire. The student Checklist covered five aspects of educational-vocational aspiration: Occupational Choice, High School Choice, Educational Plans, Kind of Work I'd Like to Do, and Kind of Work I Think I'll Do. The parent questionnaire covered three aspects: Occupational Choice, High School Choice and Educational Plans. It was assumed that the ninth grade experimental and control students were equal in educational-vocational aspirations at the time they entered the seventh grade.

In three of the five aspects of educational-vocational aspirations of ninth grade students no significant differences between experimental and the control groups were found. Control girls registered higher on the Occupational Choice Scale and with respect to Educational Plans.

The responses of the parents of the two student groups were not significantly different in two of the three aspects of educational-vocational aspiration studied. On the third aspect, selection of type of high schools, significantly more Higher Horizons parents aspired to have their sons attend academic or commercial high schools, whereas more control parents chose vocational high schools for their sons.

It was concluded that, in general, the educational-vocational aspiration level of students and parents did not, under the conditions of this study, seem to be significantly affected by the Higher Horizons program except that significantly more Higher Horizons than Control parents aspire to have their sons attend academic or commercial high schools.

Chapter XI

STAFF EVALUATION OF THE HIGHER HORIZONS IN JUNIOR HIGH SCHOOLS

A. Evaluation of the Higher Horizons Program by Principals

Problem

The purpose of this study was to provide an answer to the following question:

> "What was the reaction of the junior high school principals to the Higher Horizons Program?"

Design

Instrument

To provide an answer to the question posed by this study, a special instrument was devised by the Bureau of Educational Research. Called the "Principals' Questionnaire" it consisted of twenty-three statements drawn from a list of goals that were to be emphasized in the Higher Horizons Program. Each statement was to be rated on a four point scale, as follows: "0", adverse effect; "1", no effect; "2", some positive effect; and "3", outstanding positive effect. A copy of the questionnaire will be found in Appendix M.

Procedure

In June 1963, at the end of the first four years of the program, the questionnaire was sent to the principal of each of the thirteen junior high schools in the Higher Horizons program. Each principal completed the checklist, and in addition, indicated how many years he had spent in the school as either appointed or acting principal. Finally, each principal was asked to indicate and explain briefly, if he was in favor of continuation, expansion, discontinuance, or modification of the Higher Horizons Program. Analyses of the responses to the questionnaires were done by school and by item.

Results

Analysis by School

The mean rating score for all thirteen principals, on the total questionnaire was 2.18; the mean scores range from a low of 1.61 to a high of 2.87 with a median score of 2.13. In general, the principals indicated that the Higher Horizons Program had more than some positive degree of effectiveness in realizing its goals.

Seven of the thirteen principals, 53.84 per cent, were in favor of having the Higher Horizons Program expanded; three principals indicated that they wanted the Program to be continued; two were in favor of the Program continued with modification; and one principal wanted the program expanded and continued. The most experienced principals favor continuance of the Program with modifications. They tend to feel that the Higher Horizons Program has had almost outstanding success in realizing its goals. Principals with a median of 3-1/2 years experience feel that the Higher Horizons Program has had somewhat more than some positive effectiveness but that it should be expanded. Those principals with a minimum of experience tend to feel that the Program had little effect, but they indicate a willingness to have it continued.

The comments made by the principals explaining their choices were analyzed. The principals who indicated that the Program should be continued with modification implied that the modification should be in the direction of giving the principal more discretion in using Higher Horizons funds in order to pay teachers for time on trips and certain other activities. They want smaller classes, perhaps restricted to those with academic potential. Those principals who want the Higher Horizons Program continued indicate the reason as being the additional guidance and remedial personnel provided. The eight principals who want the Higher Horizons Program expanded unanimously feel a need for additional personnel, more teachers, more remedial and guidance staff. One indicated that the Program might best be limited to those students with college potential.

Analysis by Item

An analysis was undertaken of the 23 items comprising the questionnaire. Each principal's response to each item was tabulated and a mean score, based on the thirteen principals was computed for each item. The ranked items and the mean item score are presented in Table 140. A rank of "1" indicates the highest mean score; a rank of "23" the lowest mean score. The highest ranking item, with a mean score of 2.85, concerns the effectiveness of the Higher Horizons Program in providing remedial services to children with good academic potential. Eleven principals, indicated that the Higher Horizons Program has had outstanding positive effect and two principals, indicated that the Program had some positive effect in meeting this remedial goal.

Table 140

Higher Horizons Objectives Ranked by 13 Principals According to the Effectiveness with Which These Goals Have Been Met

Rank Order	Item Mean Score	Higher Horizons Objectives
1	2.85	Remedial services for children with good academic potential were supplied in reading and also in other areas, in the Higher Horizons Program
2	2.69	Cultural experiences in the Higher Horizons Program provided opportunities not usually provided by the home or community
3	2.62	Cultural experiences in the Higher Horizons Program raised children's cultural sights
4.5	2.46	Higher Horizons guidance practices identified abilities, interests and needs of children
4.5	2.46	Higher Horizons guidance practices raised levels of aspiration of children
7	2.38	Higher Horizons guidance practices stimulated children to attain levels commensurate with their ability
7	2.38	The Higher Horizons guidance program consisted of intensive educational and vocational individual and group counseling sessions
7	2.38	Cultural experiences in the Higher Horizons Program raised the aspirations of children and improved their self-image
9	2.31	The Higher Horizons curriculum was enriched in academic and cultural areas
10	2.23	The Higher Horizons Program gave to teachers and parents faith in children, and gave to children faith in themselves
11	2.16	The Higher Horizons Program gave parents a better understanding of the community resources and educational opportunities available to them and to their children
13	2.08	Higher Horizons teacher training procedures helped teachers identify students with academic ability
13	2.08	The Higher Horizons Program aided parents in providing an atmosphere of encouragement and stimulation for their children
13	2.08	The Higher Horizons Program enlisted the assistance of community agencies in supplying necessary services

Table 140 (cont'd)

Rank Order	Item Mean Score	Higher Horizons Objectives
16	2.00	The Higher Horizons guidance program educated parents in guidance objectives and goals
16	2.00	Higher Horizons teacher training procedures helped teachers set goals for children which are based on potential rather than on past achievement
16	2.00	Higher Horizons teacher training procedures defined the role of the classroom teacher in the program
19.5	1.92	Higher Horizons teacher training procedures helped teachers provide methods for helping children realize their academic potential
19.5	1.92	Higher Horizons teacher training procedures stimulated teacher participation in the Program
19.5	1.92	The Higher Horizons curriculum was adapted to utilize existing school facilities, such as libraries
19.5	1.92	The Higher Horizons Program helped parents understand the value of school in terms of their hopes for their children
22	1.76	The Higher Horizons guidance program assisted with in-service training of teachers
23	1.69	The Higher Horizons guidance program developed new tools, techniques, procedures and materials

As indicated in Table 140 the 23 items range, in average score from a high of 2.85 to a low of 1.69 with the median of 2.12. Four of the seven guidance content items appear in the top half of the rank order; all three of the cultural objective content items are in the top half of the ranking. The only remedial and inspirational content items are also rated as having more than some positive degree of effectiveness as Higher Horizons objectives.

The second-half of the ranked distribution of items, with means of approximately 2.0 or less, contain all five teacher-training objectives, three of four parental goals, and the remaining three guidance goals. It is interesting that these guidance items are actually concerned with the success of Higher Horizons guidance program in terms of the effect on parental education and in-service teacher training procedures, rather than in terms of the direct effect on the students.

Summary and Conclusions

Four years after Higher Horizons had been in the junior high schools, the 13 principals were asked to rate 23 objectives of the Program in terms of how effectively each was realized. The mean rating of the total scale indicated that in general, the principals feel that the Program has had more than some positive degree of effectiveness in realizing its goals. There is a tendency for the overall rating of the objectives to increase as the number of years of principals' experience increases.

In general, the distinguishing feature between the effectiveness or non-effectiveness with which the Program has realized its goal lies in the nature or content of the specific goal. Those goals that are most directly child oriented rather than parentally oriented, or oriented toward teachers or methodological improvements, seem to be the goals within the Higher Horizons Program that the principals feel have been most successfully realized.

B. EVALUATION OF THE HIGHER HORIZONS PROGRAM BY TEACHERS

Class room teachers and other professional members of the staff play a key role in the success of any educational project. These personnel are the media through which all innovations are transmitted. They are the ones who daily face the demands of a novel and different situation. According to the Higher Horizons coordinator, "A program such as Higher Horizons can be successful only if it stimulates the faith of teachers in pupils....Therefore, a major part of the Higher Horizons effort has consisted of the training and re-training of teachers."[1]

Problem

In order to complete the study, and evaluate the effectiveness of the Higher Horizons Program, a questionnaire was administered to all professional staff members in the thirteen participating junior high schools, surveying their reactions. The purpose of this study was to collect data to answer the question:

> "What were the opinions of the professional school staff's toward the various aspects of the Higher Horizons Program?"

Design

Instrument

The questionnaire was a checklist form designed to measure the degree of effectiveness the Higher Horizons Program has had in meeting its own stated objectives. This questionnaire is very similar in objectives, construction and form to the one distributed to the principals, with modifications made for clarity and emphasis. A copy of the questionnaire is presented in **Appendix N.** It consists of two parts: descriptive data and the rating checklist.

The descriptive data, to be used for interpretive and analytic purposes only, requested information concerning total years teaching experience, years teaching in these particular junior high schools, expectations for the school year 1963-64, and a description of duties other than teaching duties. In addition they were asked to indicate, and briefly explain if they were "in favor of continuation, modification or discontinuance of the Higher Horizons Program."

The questionnaire consisted of 25 items and a rating scale. Each item was in the form of a question to be answered by rating the effectiveness of the Higher Horizons Program; a rating of "0" indicated that the Higher Horizons Program has had an "Adverse Effect," a rating of "3" indicates that the program has "Outstanding Positive Effect." A scale value of "1" indicates "No Effect," while "2" represents "Some Positive Effect."

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[1] Landers, J. Higher Horizons: Progress Report. Board of Education of the City of New York, January 1963, p. 20.

Population

Although the emphasis of this study was on the classroom teachers, the structure of a Higher Horizons junior high school is such that professional members of the staff are in contact with the experimental program in many of its several phases. Professional staff members include: guidance counselors, classroom teachers, quota teachers, "Other Personnel" (librarians, behavior counselors, career guidance personnel, Non-English, Remedial Reading, Music, Science, Mathematics, Foreign Language, Program, Core, Teacher Training) and teachers, as well as Industrial Arts, Health Education and Attendance Teachers, and Assistant Principals and Principals. Some of these "Other Personnel" were assigned to a school on a partial basis, for example, Attendance Teachers served 3 days in one school and in another school for the other two days. The great majority of the teachers were assigned on a full time basis. The directions specified that only the principal was to be excluded from completing this questionnaire.

Procedure

The distribution and data collection system was devised to assure anonymity. A copy of the questionnaire, together with the cover sheet was distributed to each professional member of the staff in the thirteen Higher Horizons junior high schools early in June 1963. This was accompanied by a letter urging the recipients to complete and return the questionnaire. Only those questionnaires where at least 70 - 75 percent of the 25 items had a rating, and almost complete background information, were used in the analyses.

Results

Descriptive Background Data

Table 141 summarizes the number of total professional staff members in each of the thirteen Higher Horizons junior high schools, the number and per cent of questionnaires returned, and the number and percentage of questionnaires used in the analyses.

Table 141

Number and Percentage of Questionnaires Returned and Completed for the Thirteen Higher Horizons Junior High Schools

JHS	Total Prof.* Staff 1962-63	Number Returned	Per Cent Returned	Number Usable	Per Cent Usable	Mean Score
A	100.6	99	98.41	93	93.94	1.95
B	113.4	87	76.72	85	97.70	2.00
C	118.0	108	91.53	107	99.07	1.96
D	100.2	89	88.82	85	95.51	1.56
E	102.4	78	76.17	72	92.31	1.70
F	87.0	69	79.31	68	98.55	1.52
G	81.0	75	92.59	66	88.00	2.00
H	115.0	108	93.91	96	88.89	1.48
I	108.4	49	45.20	45	91.84	1.72
J	53.0	29	54.72	25	86.21	1.60
K	58.8	50	85.03	49	98.00	1.56
L	83.0	73	87.95	62	84.93	1.56
M	105.0	97	92.38	97	100.00	1.75
Total (N=13)	1225.8	1011	82.48	950	93.97	1.82

* Part-time personnel were also included.

The percentage of returns ranged from 98.41 per cent (JHS#A) to 45.20 per cent (JHS#I). The average per cent return, based on all thirteen schools, was 82.48 percent. The median per cent return was 88.82. Of the 1011 questionnaires returned, 950 or 93.97 per cent were complete. The 61 that were not usable contained no ratings at all, althoughthe requested background information was filled in. It is interesting to note that 46 per cent (28) of the non-usable returns were from staff members who had less than three years experience, and who indicated that they did not feel qualified enough to make the evaluation.

Of primary interest in evaluating the effectiveness of the Higher Horizons Program is the amount of experiance the professional staff members have had.

Twenty-five per cent (253) of all staff members indicated they had less than 3 years total teaching experiance; approximately 29 per cent (292) had from 3 - 5 years experience, 21 per cent (217) had from 6 - 10 years experience and about 25 per cent (249) of all the respondents had more than 10 years total teaching experience. In general, 53.9 per cent of the professional staff members returning the questionnaire indicated five or less years total teaching experience; 46.1 per cent indicated six or more years experience.

What was the distribution of responses to the question "Do you expect to be on duty in this school during 1963-64?," the coming school year? On the average, 85.86 per cent indicated "yes", they planned to be in the same school for the next academic year; 11.77 per cent indicated that they did not plan to be in the same school during the following year, and 2.37 per cent did not answer the question (NR).

Two other background questions were, "Did you teach Higher Horizons classes or groups of Higher Horizons students?" and "In addition to teaching, did you have any special jobs relating to the Higher Horizons Program?" The analyses are based on the average of responses for the years 1961-62 and 1962-63 when all grades in the junior high schools were participating in the program. An average of approximately 71 percent of the total respondents indicated that they did teach Higher Horizons classes or groups of students; 25 percent indicated that they did not teacher Higher Horizons classes and about 4 percent did not answer this question (NR).

In response to the query, "In addition to teaching, did you have any special jobs relating to the Higher Horizons Program," an average of 44 percent indicated that they had no special job in addition to teaching; 31 percent indicated that they did have special jobs. Twenty-five per cent of the respondents failed to answer this question.

Analyses of Mean Total Scores

The mean scale score for each of the junior high schools, averaged for all respondents and all items, is presented in Table 141 The mean scores range from a low of 1.52 to a high of 2.00, indicating that the Higher Horizons Program has had moderate beneficial effect.

Every junior high school in the Higher Horizons Program received an additional allotment of professional personnel, and principals were given a great deal of freedom in the use made of the assigned Higher Horizons Program Teachers. They were used mainly for remedial reading, teacher training, curriculum enrichment, cultural activities, and administration. Unlike the situation in the Higher Horizons elementary schools, the additional junior high school personnel have not been required to spend any time in class instruction of children. It therefore becomes important to investigate the opinions of those professionals who have had direct contact (teaching) with students and those professionals who had other or additional duties.

Staff members, those with teaching duties only, indicate that the Higher Horizons Program has been less effective in realizing its goals than do those staff members having other than teaching duties. The average score for all teachers is 1.70, the average score for all other staff members is 1.93. Teachers in general rated the Program between "Some Positive Effect" to "No Effect;" other staff members indicate that the Program approached the "Some Positive Effect" rating.

Total average scores for all schools combined, for each experience category, were computed. The group with three or less years experience averaged 1.79; the average effectiveness score is 1.81, 1.84 and 1.90 for the 3-5, 6-10 and more than ten years experience groups respectively. In general, the total effectiveness rating increases directly with increased experience. Although no individual school exhibits this linear relationship, there is a distinct tendency for rating to increase with experience. Those staff members who have been in education longest tend to view the Higher Horizons Program as having more effectively realized its goals - as compared with staff members with less experience. There is some reason to indicate that this tendency is related to the finding that those with non-teaching duties rate the Program as having been more effective as compared with the opinions of classroom teachers. An analysis of the data on the relationship between years experience and professional duties revealed a tendency for those professional staff members who have duties other than direct classroom instruction to be more experienced than classroom teachers, and in addition, to rate the experimental goals as being more effectively realized.

Analysis By Item: Evaluation of Specific Objectives

Mean scores for each item, averaged for all respondents in all junior high schools, provide the basis for ranking the 25 items of the questionnaire in terms of effectiveness. Table 142 presents the ranked items and the mean item score for each item. The goal most effectively realized (rank of 1) concerns the additional personnel and services provided by the Higher Horizons Program.

Table 142

Average Rank Order of Questionnaire Items for all Respondents from All Participating Junior High Schools

Item No.	Rank	Mean Score	Item
23.	1	2.10	Provided teachers with additional guidance, remedial and counseling services.
6.	2	2.08	Improved students' interest in books, art, music, theatre, museums, etc.
11.	3	2.00	Identified students with talents other than academic.
24.	4	1.99	Assisted teachers in using cultrual activities for cultural purposes.
7.	5	1.92	Raised students'educational goals to high school graduation.
10.	6	1.89	Identified students with academic potential.
21.	7	1.88	Helped teachers in adapting and enriching the curriculum.
22.	8	1.86	Provided teachers with additional information about students' background.
19.	10	1.85	Helped teachers identify potentially able students.
9.	10	1.85	Raised students' vocational aspirations.
18.	10	1.85	Increased number of parent-counselor interviews.
20.	12	1.84	Raised teachers'educational goals for these students.
1.	13	1.81	Improved students'scholastic achievement.
3.	14	1.77	Improved students attitudes to learning.
17.	15	1.74	Increased number of parent-teacher interviews.
8.	16	1.72	Raised students' educational goals beyond high school completion.
12.	17.5	1.68	Improved parents' interest in the school.
15.	17.5	1.68	Raised parents' aspirations for their children education.
16.	19	1.67	Raised parents' goals for their childrens' vocational plans.
25.	20	1.65	Aided teachers because the Program was planned and executed cooperatively.
14.	21	1.64	Increased parents' understanding of educational and career opportunities.
13.	22	1.61	Increased parents' cooperation with the school.
5.	23	1.58	Improved students'relations with their peer group and with their teachers.
2.	24	1.55	Improved students' study habits.
4.	25	1.36	Improved students' classroom behavior.

The top half of the distribution of ranked items concerns those goals closely related to teachers and students - especially in terms of identification, stimulation and enrichment. Students' interests - cultural, educational, vocational - were improved. Teachers, provided with additional information raised their own goals for students, and were able to better select and identify those with academic and other potentials.

In general, the lower half of the ranked distribution is concerned with goals relating to direct, observable classroom activites, achievement of students and those goals relating to attitudes, aspirations, understanding and interests of parents. The lowest rated items tended to be concerned directly with classroom behavior - students' attitudes toward peers and teachers, students' study habits and classroom behavior. This confirms previous findings in these areas, where no significant changes in behavior and attitudes were noted.

Decisions Regarding Future Disposition of the Higher Horizons Program

Staff members were asked if, all things considered, they were in favor of the Higher Horizons Program being continued, discontinued or modified. In addition, they were asked to briefly describe their reasons for their choice.

Of all respondents, 95.60 per cent made a choice; of these approximately 51 per cent were in favor of the Higher Horizons Program being continued, 36 per cent felt that the Program should be modified and about 9 per cent indicated that they were in favor of discontinuing the Program. These percentages, for all respondents, and for each of the experience categories are summarized in Table 143.

As would be expected, there was a high rank order correlation between mean score on the total questionnaire and the percentage in favor of continuing the Program. The rho = +.78, indicating a correspondence between the rating of effectiveness and the desire to have the Program continued. This accounts for only some of the variation between schools.

Table 143

Distribution of Respondents Indicating the Future Disposition of the Higher Horizons Program

	Per Cent Checking				
Years Experience	Continued	Discontinued	Modified	No Response	Total
3	53.85	5.26	32.79	8.10	100.00
3-5	51.72	7.89	35.94	4.45	100.00
6-10	51.57	8.07	38.12	2.24	100.00
10	46.63	13.03	37.82	2.52	100.00
Total	51.10	8.50	36.00	4.40	100.00

A greater percentage of those staff members with the least experience are in favor of continuing Higher Horizons; somewhat less than half of those with more than ten years experience are in favor of continuance. More of those with ten or more years experience indicated that they were in favor of discontinuance than did any of the other groups.

The most common reason for future continuance of the Program is that it has provided many additional cultural benefits and opportunities. This is the item that received the highest rank of effectiveness. Many indicated that the Program was good and should be expanded - expanded in such areas as increased cultural activities and services.

Other common comments include good guidance services, good remedial services and the improvement in the relationship between teachers and students. There was some disagreement between respondents as to whom the Program benefited most; some indicated that it was good for only low socio-economic children, others indicated that it was only good for bright students, while others said Higher Horizons would aid integration.

The negatively critical comments were that the Higher Horizons Program was "ineffective" and "needed better planning." Ineffective meant that the effects of such an educational program are negated by large class size, teacher and student mobility, lack of supplies and trained teachers. The respondents indicated that less effort and expense should be placed on the "propaganda" aspects and more time and funds should go toward effective planning. Some of the more common shortcomings in planning mentioned was that there was not enough stress paid to vocational subjects, nor was enough attention paid to teachers' suggestions. It was indicated that the Program favors primarily those students who can afford (monetarily) cultural activities, but should include all students. Orientation and training of teachers was stressed.

In general, the comments made tend to substantiate the ranking of the items according to how well those goals have realized success. Of course there are individual differences from school to school - since each school administration had a great amount of license in using money and personnel. There were policy differences; differences in policies led to different emphases which are reflected in the content of comments made.

In addition, when the respondents are divided on the basis of total experience there are different qualities to the comments; for example, in the group with less than three years experience there tended to be a great emphasis on teacher training, favoritism, teachers' suggestions, and the like. Those with more than ten years experience heavily stressed the cultural benefits of Higher Horizons and stressed the need for small classes, more supplies, and the need for more competent teachers.

Summary and Conclusions

The purpose of the present study was to investigate the reactions of all members of the professional staff in Higher Horizons junior high schools. Early in June 1963 a questionnaire was anonymously completed by 1011 staff members representing 82.48 per cent of the staff in all of the participating junior high schools.

The two-part questionnaire consisted of a section dealing with the educational experience of the respondents and a 25 item checklist. The checklist consisted of statements of Higher Horizons goals and the respondents rated each goal on a four-point scale describing the degree to which the Program had been effective. Of all questionnaires returned, approximately 94 per cent were used in the analyses. The major analyses were on a school by school basis and on a basis of respondents total experience.

The findings may be summarized as follows:

1. The percentage of returns ranged from 98 per cent to 45 per cent with an average return of 82 per cent; of these 94 per cent were usuable.
2. About 54 per cent of the respondents had five or less years total experience.
   Approximately 25 per cent had more than ten years experience.
3. In general, about 86 per cent of the respondents planned to be reassigned to the same school during the next scholastic year; 12 per cent did not plan to return.
   There is a tendency for staff mobility to decrease as total amount of experience increases.
4. On the average 71 per cent of the respondents indicated that they had direct classroom (teaching) contact with Higher Horizons classes or groups of students; 25 per cent indicated no teaching of Higher Horizons classes and 4 per cent did not respond. Those groups with less than three years and more than ten years experience tended to have fewer teaching contacts than the mid-experienced groups.
5. Forty-four per cent indicated that they had teaching duties only; 31 per cent indicated special duties in addition to or instead of teaching duties.
6. The average score on the questionnaire, for all schools combined is 1.82; average school scores range from a low of 1.52 to a high of 2.00.
7. Evaluations were influenced by assignment; those with teaching duties only rated the Program 1.70 as compared with an average rating of 1.93 by the staff who had duties other than or in addition to teaching.
8. Evaluations were influenced by the number of years experience of the respondents: As experience increased there was a tendency for the effectiveness ratings to increase directly.
9. The additional personnel and services provided by the Program were most highly rated. Other goals successfully realized were concerned with the identification, stimulation and enrichment of students. There was little success in improving student achievement, attitudes, study habits and classroom behavior. Staff members differing in experience tend to rank some of the questionnaire items differently, although the ordering was in general similar.
10. When asked about the future disposition of the Higher Horizons Program, 51 per cent were in favor of the Higher Horizons Program being continued, 36 per cent felt that the Program should be modified and 9 per cent indicated that they would be in favor of discontinuing the Higher Horizons Program. In general, there is a tendency for those who rate the Program as being effective to want to see it continued.

11. In general the descriptive reasons tended to be critical but in good agreement with the nature of the more poorly realized goals. The planning of the Program was criticized in many phases: large classes, mobility of students and teachers, and teacher training. Many were favorably impressed, however, by the cultural and remedial aspects.

It may be concluded that the staff members in the participating Higher Horizons junior high schools are favorable to the Program indicating that it has been moderately successful in certain areas, that it needs improvement in other areas. Policy differences, differences in administration among schools, differences in experience of respondents make for differences in evaluations. These differences have been noted and should be studied further - modifications and corrections can be established on the basis of those staff members actually working with the disadvantaged schools as well as on the basis of research findings.

PART IV

FINAL SUMMARY

CHAPTER XII

SUMMARY AND CONCLUSIONS

A. SUMMARY OF EVALUATION OF HIGHER HORIZONS PROGRAM - ELEMENTARY SCHOOL

The evaluation of the Higher Horizons Program at the elementary school level focused upon three areas: scholastic aptitude and achievement, personal and social development and professional staff reactions. In the area of scholastic aptitude and achievement studies were undertaken concerning mental ability, reading and arithmetic. In the area of personal and social development studies were conducted concerning classroom behavior, school attitudes, self-image, attendance, suspensions and truancy. In the area of professional staff evaluation, survey studies were made of principals' and staff members' reactions concerning the effectiveness of the Program.

Scholastic Aptitude and Achievement

Aptitude

It was expected that the Program would have positive effects in the areas of scholastic aptitudes and achievement. To determine whether this expectation was substantiated for the Higher Horizons Program in the elementary schools, studies were undertaken in the areas of intelligence, reading and arithmetic. A longitudinal study attempted to determine the effects of the Higher Horizons Program on group test IQ scores of participating pupils. Two kinds of selected populations were involved. One consisted of pupils in eight pairs of matched experimental and control schools for whom there were third grade Otis Alpha IQ scores and sixth grade Otis Beta IQs. The pupils selected for this population had been in the same school for both tests. In the first analysis of the data based on eight matched schools, no significant differences were found between the boys, the girls and the total experimental and control groups either on the third grade Otis Alpha IQ or the sixth grade Otis Beta IQ scores. In a more rigorous study when pupils from these eight pairs of matched schools were individually equated on third grade IQ and compared on sixth grade IQ scores, again no significant differences were found. A separate analysis was made of mean IQ differences between equated pairs of pupils in each of the eight pairs of schools. It was found that in four pairs of schools the experimental schools scored higher on the Otis Beta than their control counterparts; the mean IQ difference was significant for only one pair of schools. In the remaining four pairs the control schools scored higher on the Otis Beta but for only one pair was the mean difference statistically significant. The second population was composed of five of the previously employed eight pairs of matched experimental and control schools. The effects of the Higher Horizons Program on IQ score year by year from 1959-60 to 1962-63 were studied. In this analysis pupils from the five matched experimental and control schools were individually equated on third grade Otis Alpha IQ score and compared for significant differences on fourth grade Otis Alpha IQ, fifth grade California non-Language and Language IQs as well as sixth grade Otis Beta IQ score. The results revealed no statistically significant differences on fourth grade Otis Alpha and fifth grade California non-Language tests. An analysis by sex, however, showed that among the boys, the experimentals scored significantly higher than the controls on the fifth grade California Language and sixth grade Otis Beta tests. Among the girls, there were no statistically significant differences on any of the four tests. The fact that no significant differences were found between the two groups in IQ score at the third grade and again at the sixth grade, would appear to indicate an absence of relationship between participation in the Program and an increase in group IQ scores.

Achievement

Three studies on reading achievement were undertaken. In the normative study of reading comprehension involving third grade pupils in eight Higher Horizons elementary schools, actual gains over a sixteen school month period were slightly higher than expected gains. In the second study, pupils drawn from the eight matched experimental and control schools were equated on third grade reading comprehension scores and compared on sixth grade reading test scores. No statistically significant differences were found between the two groups. The third study was confined to those pupils participating in the second study who were reading below the norm at third grade test time. By the sixth grade, these pupils in the Higher Horizons schools made the same gains in reading as their control counterparts. Although the Program enabled participating pupils in the normative study to read up to expectation, the gains made by the Higher Horizons pupils in reading from the third to the sixth grades were not significantly different from those made by the control pupils.

To determine the effects of the Program in the area of arithmetic, two studies were undertaken. The first was a normative study in which actual growth of Higher Horizons third grade pupils in arithmetic over a sixteen school month period was compared to their expected growth. In computational skills, the gains were just about at expectation; for problem solving, the group fell somewhat below expectation.

In the second study, pupils drawn from eight pairs of experimental and control schools, were equated in fourth grade arithmetic computation and compared on sixth grade scores. The results revealed that the pupils in Higher Horizons schools scored significantly higher in computational skills. In a similar comparison between the two groups on arithmetic problem solving, again the Higher Horizons pupils scored significantly higher.

Personal and Social Development

School Attitude and Behavior

Two studies of the effects of the Program on pupil attitudes towards others, towards school and towards themselves were conducted.

In the initial investigation fifth grade pupils in eight experimental and eight matched control schools rated themselves on a Pupil Self-Rating Scale.

At the same time the fifth grade teachers rated these pupils on a Teacher Rating Form of Pupil Growth which contained the same items and the same scale values as the pupil form. Both scales were given at the end of the school year. The Scales required the rater to give two ratings for each of sixteen items, first, an estimate of the attitude at the beginning of the school year and one for the end of the school year. The findings indicate that groups of matched pairs of fifth grade pupils in the experimental and control schools participating in this study did not rate themselves significantly different with respect to attitudes towards school, work, others and themselves. The teachers of these two groups of pupils did not show statistically significant differences in their ratings of these pupils. The findings appear to indicate that the pupils in these two groups were functioning at the same attitudinal level as seen by themselves and by their teachers.

In the second study the School Attitude and Adjustment Scale was administered at the beginning and again at the end of the following school year to pupils in eight Higher Horizons and matched control elementary schools. The pupil self-rating form of the scale was completed by selected sixth grade pupils; the teacher form of the Scale was used by the sixth grade and third grade teachers for rating their pupils. No self-ratings were obtained from the third grade pupils.

No statistically significant differences were found between the sixth grade pupils in the two groups in self-ratings or in teacher ratings either on the initial or final scores. The initial teacher ratings of their third grade pupils were not significantly different in the experimental and control groups. There was, however, a significant difference on the final teacher ratings in favor of control third grade girls. However, there were no significant differences in the final teacher ratings of the boys and the boys and the girls combined.

It appeared that pupils who had been in the Program anywhere from one to at least three years did not exhibit attitudes significantly different from the control pupils, based on teacher ratings.

In addition to the studies on school attitudes, a comparison of classroom behavior of pupils in experimental and control schools was made. Third and fifth grade pupils in eight experimental and matched control schools were rated twice by their teachers on the Classroom Discipline Scale in November and May of the school year. It was found that as a group third grade pupils in the experimental and control schools equated on initial teacher rating were not significantly different on the final teachers rating of their classroom behavior over the period studied. The fifth grade group, however, were found to be significantly different on final teacher rating in favor of the experimental pupils. The analysis by sex showed that the ratings were significantly higher for the experimental girls; the experimental boys were rated higher than the controls but the difference was not significant.

Self-Image

Another area of investigation sought to determine the effects of the Higher Horizons Program on the self-image of pupils. The sample consisted of sixth grade pupils from seven pairs of matched Higher Horizons and control schools. Data were obtained by the About Myself Scale, which is a pupil self-rating inventory containing a list describing sixteen abilities. Pupils rated themselves twice for each ability, first, as they thought they were now, and then as they wished they were. The estimate of present abilities is an indication of the self-concept; the expressed wish with respect to these abilities constitute the ideal-concept.

The results revealed that sixth grade pupils in the control schools reported significantly higher self-concepts than their experimental counterparts. This held true for the combined group but not for the separate comparison of the boys and girls in the two groups. There were no statistically significant differences in the total ideal-concepts of the two groups, as well as for the boys and girls separately. In general, pupils in the Higher Horizons Program, under the conditions of this study, do not exhibit higher self-image levels than pupils in matched control schools as measured by a self-rating inventory.

Attendance

The effect of the Higher Horizons Program on the attendance rates of participating pupils was also investigated. Attendance data for 16 representative Higher Horizons and 16 matched control schools for six consecutive school years were collected. Annual rates of attendance were calculated for the total populations and also for the third, fourth, fifth and sixth grade groups in each of these schools. Before the inception of the Program the control school populations showed consistently higher attendance rates than the Higher Horizons groups. However, after the inception of the Program, the Higher Horizons populations made slightly greater in attendance rate gains than the control populations.

The Higher Horizons groups which entered the third grade in 1959-60, the first year of the Program, and were promoted to the fourth, fifth and sixth grades in the subsequent years, made slightly greater gains in attendance rates than their control counterparts. However, successive groups of third grade classes in the Higher Horizons Program for one year achieved attendance rates which were no different from those of third grade pupils attending the same school before the introduction of the Program. Elementary school pupils in Higher Horizons Program for four years exhibit slightly greater gains in attendance rates than pupils in non-Higher Horizons control schools.

Truancy and Suspensions

Another study investigated the effects of the Higher Horizons Program on the attitude of pupils toward school as reflected in truancy and suspension rates. The population studied were pupils in eight experimental and eight control schools for the period from 1958-59 to 1962-63. The data for truancy were obtained from the Bureau of Attendance and information about suspension from the assistant superintendents of the districts in which the schools were located. The number of truancy referrals per thousand pupils in the two groups were compared. The number of formal suspension hearings per thousand pupils before the district assistant superintendent in the experimental and control groups were also compared. Although the truancy rates tended to be consistently higher in the control schools, there was no consistent patterns in the suspension rates for the two groups of schools over the period of this study, 1958-59 to 1962-63.

Professional Staff Evaluation

Teachers

Teacher judgment of the effectiveness of the Higher Horizons Program in participating schools was also surveyed. A Teacher Questionnaire was completed anonymously by 386 teachers in 16 Higher Horizons elementary schools in June 1963. This sample represented almost 80 per cent of the professional staff in these schools.

The Questionnaire provided data relating to the teaching experience of the respondents and a check list of 25 statements representing some of the major goals and procedures of the Program. Teachers rated each questionnaire item on a four point scale which described the degree to which the Program had been effective. In addition, teachers were asked to indicate with a brief explanation whether they felt the Program should be continued, modified or discontinued.

About 80 per cent of the respondents were classroom teachers. Of these, two out of three had been in the classroom two years or less, and half in the school system five years or less. The non-classroom staff were project teachers, remedial reading teachers, and guidance counselors. Almost half of the most experienced teachers were in the non-teaching positions. In general, the teachers felt that the Program tended to have "some positive effects." The ratings of the Program for each school indicated that each staff as a group tended to rate the Program favorably.

The goals most effectively implemented as judged by all the respondents were those concerned with cultural activities and additional services. The Program had least effect on classroom behavior, study habits, poor relationship and educational goals of the students. About two thirds of the teachers favored continuation of the Program, one quarter modification and less than ten per cent voted to discontinue it.

The reasons presented by those who wanted the Program continued were the cultural enrichment and additional services. These teachers also pointed up the need for more services, smaller class registers, and better use of staff. Those favoring modification reiterated the need for smaller classes, expanded services, better liaison between staff and classroom teachers and greater emphasis on academic learnings. Those advocating discontinuation felt that all teachers should be returned to the classroom thus reducing class registers in order to better realize the objectives of the Program.

Principals

The purpose of this study was to determine effectiveness of the Higher Horizons Program from the point of view of the principals of the participating elementary schools. A questionnaire was completed by all 52 principals of Higher Horizons elementary schools in which they rated the degree to which 23 listed goals of the Program had been realized. They also indicate how they felt about the continuation of the Program. About 90 per cent of the principals rated all items as having "some positive effect." The overwhelming majority of the principals favored the continuation of the Program primarily because of extra services made available for remedial work, guidance and teacher training. A few principals suggesting some modification, mentioned the need for expanded services, smaller classes and greater flexibility in administering the Program at the school level. The specific aims realized to the greatest extent were those concerned with culture and remedial goals; the least effective were those relating to guidance and teacher training goals.

B. SUMMARY OF EVALUATION OF HIGHER HORIZONS PROGRAM - JUNIOR HIGH SCHOOL

The evaluation of the Higher Horizons Program at the junior high school level focused upon three areas-scholastic aptitude and achievement, personal and social development, and professional staff opinion. In the area of scholastic aptitude and achievement, studies were undertaken concerning intelligence, reading, arithmetic and student potential. In the area of personal and social development, studies were conducted concerning, classroom behavior, educational and vocational aspirations, peer acceptance, self-concept, student attitudes toward school, attendance, truancy and suspensions. In the area of professional staff opinion, survey studies were made of principals and staff members concerning the effectiveness of the Program. The scope of the evaluation was intended to reflect effects of the Program in the three major aspects of school life.

Scholastic Aptitude and Achievement

Aptitude

It was expected that a program of the type evaluated in this study would have positive effects in the areas of scholastic aptitude and achievement. To determine whether this expectation was substantiated for the Higher Horizon Program in the junior high schools, studies were undertaken in the areas of intelligence, student potential, reading and arithmetic.

In the study of intelligence test scores, sixth grade students in ten experimental and ten control schools, equated on Otis Beta I.Q's, were not found to be significantly different on eighth grade Pintner I.Q. scores when analyzed by sex or on a combined group basis. When grouped according to high, middle or low reading level on the basis of sixth grade reading scores, again no significant differences on eighth grade Pintner I.Q. scores were found between control and experimental groups within each of the three reading levels.

It has been held by some that the usual standardized tests do not indicate student potential as well as teacher estimates. To investigate this question two studies were conducted to determine whether teacher estimates of student potential as obtained under certain prescribed procedures were superior predictors of student school achievement when compared to scores on standardized tests of achievement and scholastic aptitude. Seventh grade students in three Higher Horizons junior high schools participated in the first study. Employing multiple correlation procedures it was found that composites of teacher estimates of student potential obtained in the seventh grade were superior to composites of standardized test measures in predicting scholastic achievement in the eighth grade.

In the second study involving ninth grade students in two Higher Horizons junior high schools, it was found that composites of teacher estimates of student potential secured in the ninth grade were superior predictors of tenth grade high school scholastic achievement than were composites of standardized test measures. These studies tended to corroborate the hypothesis that for students in these Higher Horizons schools teacher estimates tended to be better indicators of later academic achievement than are standardized tests.

Achievement

In the area of arithmetic achievement two studies were designed-an expectancy study which compared actual and expected gains of Higher Horizons students, and a comparative type study in which controls and experimentals were compared for differences. In the expectancy study, actual gains in arithmetic achievement of seventh grade students in all 13 Higher Horizons junior high schools over a sixteen school month period were less than the expected gains by the end of eighth grade. In the experimental-control study, groups from ten Higher Horizons, pre-Higher Horizons, and control schools equated on sixth grade arithmetic scores showed no significant differences on eighth grade arithmetic achievement.

In the area of reading achievement two studies were designed: an expectancy study which compared actual and expected gains of Higher Horizons students and an experimental - control study in which controls and experimentals were equated on initial and compared for differences on final testings. In the expectancy study, average actual gains of seventh grade students in Higher Horizons schools over a sixteen school month period in reading comprehension were greater than the expected gains. Their increment in reading vocabulary over the sameperiod was equal to the expected gain. In the comparative study, experimental students equated on seventh grade reading scores achieved significantly higher ninth grade reading scores than did the comparable pre-Higher Horizons groups. The experimental students, however, were not significantly different in reading comprehension from those in comparable control groups.

In the area of reading achievement, the program did fulfill its objectives when measured in terms of expectancy for reading comprehension and vocabulary. However, although the Higher Horizons groups under study did show significant reading improvement when compared to the pre-Higher Horizons groups, no real differenceswere exhibited between experimentals and controls.

Personal and Social Development

It was expected that a program of the type evaluated in this study would have positive effects in the areas of personal and social development. To this end studies were undertaken in the areas of attendance, classroom behavior, educational and vocational aspirations, peer acceptance and self-concept, truancy, student attitudes toward school and suspensions as well as evaluations of the Program by participating principals and teachers in the Higher Horizons schools.

Classroom Behavior

Three studies in the area of classroom behavior were conducted. The first study was conducted on the assumption that if behavior improvement was cumulative its effect would be most discernible on the ninth grade level. Consequently, this initial study involved only ninth grade students in selected samples from two pairs of matched experimental and control schools. The study did not reveal significant differences in classroom behavior as judged by teachers on special behavior rating scales.

The second and third studies involved seventh, eighth and ninth grade students in junior high schools. No assumption was made in either of these studies regarding the cumulative or non-cumulative nature of behavior improvement. The second study involving five pairs of experimental and control schools utilized initial and final report card ratings. An analysis of the report card ratings indicated that over a one year period, experimental students' behavior was rated superior to that of matched control counterparts in the cases of eighth and ninth grade girls and in the case of seventh grade boys. No differences were found, however, for seventh grade girls or eighth and ninth grade boys. The third study, compared experimental and control seventh, eighth and ninth year students in four matched pairs of schools. The experimental and control students were individually matched on sex, grade and initial report card ratings, and then were compared on the Behavior Rating Scale at the end of the same school year. A statistically significant difference was found favoring the Program students only in the case of eighth grade girls.

School Attitudes

In the investigation of student attitudes toward school two studies were undertaken. The first study attempted to evaluate the effects of the Higher Horizons Program on the school attitudes and work habits of participating students as measured by student self-ratings and teacher ratings of students. Matched pairs of seventh, eighth and ninth grade students from three pairs of experimental and control junior high schools were studied. Rating forms used required the rater, the teacher or student, at the end of the school year to estimate level of school attitudes and work habits; and at the same time to think back and estimate these levels at the beginning of the school year. No significant differences were found between experimental and control students in school attitudes whether measured by teacher ratings or student self-ratings.

The second study also evaluated the school attitudes and work habits of the Higher Horizons students as compared to junior high school students in control schools. Students in the seventh, eighth and ninth grades of five pairs of experimental and control schools were employed. Ratings of attitudes based on student self-estimates and teachers' estimates of these students were studied. Forms were administered twice, in the fall of 1962 and again at the end of the spring term of 1963. No significant differences on final teacher ratings were found for the two groups equated by matched pairs on initial teacher ratings except for the eighth grade girls. Students matched on initial self-rating scores were not significantly different on final self-estimates. The eighth grade control girls rated themselves somewhat higher than their experimental counterparts.

Peer Acceptance

The Ohio Social Acceptance Scale, a sociometric instrument, was used to measure changes in class peer relationships. The Scale was administered twice over a six month interval. Seventh grade and ninth grade classes in Higher Horizons and Control schools were tested. Five pairs of schools were selected and matched on background characteristics, notably ethnic composition. Class social acceptance scores and class self-rating scores were determined. There were no significant differences after a six month interval between the experimental Higher Horizons and Control groups of seventh or ninth grade classes. The experimental program produced no significant indication of improved acceptance of the peer group or of the self-concept, over and above that change exhibited by the Control group.

Educational-Vocational Aspirations

In the investigation of selected aspects of educational and vocational aspirations two studies were undertaken. In the first study over one thousand ninth grade students in five Higher Horizons and five Control junior high schools and their parents were involved. Two instruments were used to gather data; the Educational-Vocational Checklist and the Parent Questionnaire. The student Checklist covered five aspects of educational-vocational aspiration: Occupational Choice, High School Choice, Educational Plans, Kind of Work I'd Like to Do, and Kind of Work I Think I'll Do. Of the five parts of the Checklist the last two on work plans used a free response approach. The parent questionnaire covered three aspects: Occupational Choice, High School Choice and Educational Plans. It was assumed that the ninth grade experimental and control students were equal in educational-vocational aspirations at the time they entered the seventh grade.

In three of the five aspects of educational-vocational aspirations of ninth grade studentsno significant differences between experimental and control groups were found. Control girls registered somewhat higher on the Occupational Choice Scale and with respect to Educational Plans.

The responses of the parents of the two student groups were not significantly different in two of the three aspects of educational-vocational aspiration studied. On the third aspect, selection of type of high schools, significantly more Higher Horizons parents aspired to have their sons attend academic or commercial high schools, whereas more Control parents chose vocational high schools for their sons.

It was concluded that, in general, the educational-vocational aspiration level of ninth grade students and their parents did not, under the conditions of this study, seem to be significantly affected by the Higher Horizons program except that significantly more Higher Horizons than Control parents aspired to have their sons attend academic or commercial high schools.

The purpose of the second study was to determine whether, over a period of two school years, from the beginning of grade 7 to the end of grade 8, students in the Higher Horizons Program would show greater growth in educational-vocational aspiration than would their control counterparts. The Educational-Vocational Checklist was administered twice; when the students were in grade 7, and again when they were in grade 8. Five pairs of matched experimental and control schools were involved.

Experimental and control groups were found to be initially equated on each of the five aspects of The Checklist. When final measurements were taken, at grade 8, only two statistically significant differences were noted; the Higher Horizons total group, that is, boys and girls, scored higher on "Kind of Work I'd Like to Do" and on "Kind of Work I Think I'll Do" than the controls.

It may be concluded that the vocational-educational aspirations of the Higher Horizons students were at the same level as those of the control students. However, where students at the eighth grade were given a free choice in an unstructured approach, the experimental group as a whole expressed higher vocational goals than the controls.

Attendance

A study on attendance rates attempted to determine the extent to which the Higher Horizons Program improved the attendance of junior high school students. Attendance data for thirteen Higher Horizons and ten comparable control schools were obtained for six consecutive school years 1957 to 1962. These data were collected separately for seventh, eighth and ninth grades as well as for total school populations.

The average differences in attendance rates between the experimental and control populations were no greater for the two years before the Program than for the four years after the inception of the Program.

The average attendance rates of two successive groups of seventh grade experimental students were slightly higher than those of corresponding control students for the two years before the introduction of the Program in 1957 to 1958. However, from 1959 to 1962, the period of the Program, the controls showed slightly higher attendance rates than the corresponding experimental group.

The attendance rates of two successive groups of students in the experimental and control schools as they progressed from the seventh to the ninth grades were analyzed. It was found, that both Higher Horizons seventh to ninth grade populations averaged higher attendance rates than their corresponding controls. However, a comparison of the average rates of the pre-Higher Horizons populations with their comparable pre-Program controls also showed about the same difference in rates. In effect, no changes in attendance rates were discerned among the compared groups in pre-and post-Higher Horizons periods.

Truancy and Suspensions

In the study on truancy and suspensions controls included not only the same thirteen junior high schools during the year prior to the start of the Higher Horizons Program, but, in addition, ten comparable non-Higher Horizons junior high schools matched on size, ethnic distribution, and I.Q. Truancy was estimated by the number of absentee referral forms filed for each of the junior high schools for the years 1958-59 to 1962-63. The comparisons of suspension rates were based on data concerning the number of formal hearings held before the district superintendent. These figures include medical suspensions, abusive conduct and feeblemindedness. It was assumed that frequency rates of medical and mental suspensions were about the same in the populations compared before the advent of the Program.

In general, the experimental group had fewer absentee referrals than did the pre-Higher Horizons group and a slightly greater number per thousand students than the comparable control group. This initial decrease was temporary, and during the subsequent years the Higher Horizons group had more absentee referrals than either of the two control groups. The apparent increase in number of referrals, however, may reflect the increased attention of teachers and other professional personnel to the attendance and disciplinary aspects of truancy behavior.

On the other hand, throughout the period investigated the number of suspension hearings was lower in the Higher Horizons group than in the comparable control group. The rate for the Higher Horizons group was also lower than that in the same Higher Horizons schools the year prior to the start of the Program.

Professional Staff Evaluation of the Program

Teachers

To evaluate the Program in terms of professional staff opinion two studies were undertaken: one study was a survey of school principals' opinions regarding the program and the other study was a similar type survey conducted among the teachers.

A study was undertaken to investigate the reactions of all members of the professional staff in 13 Higher Horizons junior high schools. Early in June 1963, a questionnaire was anonymously completed by 1,011 staff members representing 82.48 per cent of the staff in all of the participating schools.

The two-part questionnaire consisted of a section dealing with the educational experience of the respondents, and a 25-item checklist. The checklist consisted of statements of announced Higher Horizons goals. The respondents rated each goal on a four-point scale describing the degree to which the Program had been effective. Of all questionnaires returned, approximately 94 per cent were used in the analyses. About 54 per cent of the respondents had five or less years of teaching experience; approximately 25 per cent had more than ten years experience. In general, about 86 per cent of the respondents planned to be reassigned to the same school during the next scholastic year. On the average 71 per cent of the respondents indicated that they had direct classroom (teaching) contact with Higher Horizons classes or groups of students; 25 per cent indicated no assigned teaching of Higher Horizons classes and 4 per cent did not respond.

An analysis of the reactions of the teachers revealed a varied picture. The additional personnel and services provided by the Program were most highly rated by the teachers. Other goals successfully realized were concerned with the identification, stimulation and enrichment of students. The teachers felt that there was limited success in improving student achievement, attitudes, study habits and classroom behavior. When asked about the future disposition of the Higher Horizons Program, 51 per cent of the teachers were in favor of the Higher Horizons Program being continued, 36 per cent felt that the Program should be modified, 9 per cent indicated that they would be in favor of discontinuing the Higher Horizons Program and 3 per cent did not respond.

The descriptive reasons given by the teachers tended to be critical in several areas: large classes, mobility of students and teachers, and teacher training. Many were favorably impressed, however, by the cultural and remedial aspects realized. It may be concluded that the staff members in the participating Higher Horizons junior high schools are favorable to the Program indicating that it has been moderately successful in certain areas and that it needs improvement in other areas. Policy differences, differences in administration among schools, differences in experience of respondents make for differences in evaluations.

Principals

Four years after the Higher Horizons Program had been in the 13 junior high schools, the principals of these schools were asked to rate 23 objectives of the Program in terms of how effectively each was realized. Mean ratings on the scale used indicated that the principals judged the Program had achieved more than some positive degree of effectiveness in realizing its goals. The best realized goal, concerned with remedial services was rated as having almost outstanding positive effect. There is a tendency for the overall rating of the objectives to increase as the number of years of experience as a principal increases. All the principals wanted the Program to be continued either in an expanded or modified scope.

In general, the distinguishing feature between the effectiveness or non-effectiveness with which the Program has realized its purpose lies in the nature or content of the specific goal. Those goals that are most directly child oriented rather than parent oriented, or oriented toward teachers or methodological improvements, seem to be the goals within the Higher Horizons Program that the principals feel have been most successfully realized.

CONCLUSIONS: ELEMENTARY SCHOOL

Based on the findings of the various substudies, and with full awareness that experimental factor differences between Higher Horizons and control groups are not as large as they were originally designed to be, the following conclusions seem warranted in the areas investigated at the elementary school level:

1. In general, the pupils in the Higher Horizons Program, as a group maintained their I.Q. level from the third to the sixth grades as did their control counterparts.
2. The Higher Horizons Program produces gains in reading comprehension that are slightly above expectancy, in relation to the I.Q. of the participating group.
3. The Higher Horizons Program produces gains in reading comprehension that are about equal to those made by pupils in comparable control schools.
4. The Higher Horizons Program achieves the expected level of pupil functioning in arithmetic fundamentals but registers somewhat below the expectancy level in problem solving.
5. The Higher Horizons Program produces gains in arithmetic achievement that are significantly greater than gains made by pupils in comparable control schools.
6. The Higher Horizons Program is effective after at least two years in improving selected aspects of pupil behavior, as measured by teacher judgment of classroom behavior.
7. The Higher Horizons Program produces growth in social, school, and personal attitudes on par with those produced in pupils in comparable control schools at the fifth grade level.
8. The Higher Horizons Program does not produce better self-images in sixth grade boys and girls than are produced in their corresponding controls.
9. The Higher Horizons Program tends to improve the attendance rate.
10. The Higher Horizons Program tends to decrease the truancy rate but shows no consistent pattern in suspension rate.
11. The Higher Horizons Program is regarded as producing favorable effects by the principals of these schools particularly with respect to cultural and remedial goals. No principal desired the Program to be discontinued.
12. The Higher Horizons Program is favorably received by the majority of the teachers in the schools sampled. They felt the Program should be continued because it improves the cultural interests of pupils and also provides additional guidance and remedial services.

CONCLUSIONS: JUNIOR HIGH SCHOOL

Based on the findings of the various substudies, and with full awareness that experimental factor differences between Higher Horizons and control groups were not as large as they were originally designed to be, the following conclusions seem warranted in the areas investigated at the junior high school level:

1. The students in the Higher Horizons Program maintain their I.Q. level from the sixth to the eighth grade as do their control counterparts.
2. Teachers' estimates of student potential are superior to standardized test scores in predicting academic achievement.
3. The Higher Horizons Program produces gains in arithmetic achievement that, are below expectancy in relation to the I.Q. of the group.
4. The Higher Horizons Program produces gains in arithmetic achievement that are about equal to gains made by students in comparable controls.
5. The Higher Horizons Program produces gains in reading comprehension that are above expectancy in relation to I.Q. score of the group.
6. The Higher Horizons Program produces significantly greater gains in reading achievement as compared to pre-Higher Horizons controls. However, equivalent functioning was observed between Higher Horizons and comparable non-Higher Horizons controls.
7. The Higher Horizons Program tends to produce somewhat better classroom behavior among experimental as compared to control girls based on teacher judgment.
8. The Higher Horizons Program produces levels of attitudes toward school and school work equal to those produced in comparable control schools.
9. The Higher Horizons Program produces levels of class interpeer acceptance and self-ratings equal to those produced in comparable control schools.
10. The Higher Horizons Program did not produce levels of educational-vocational aspirations in ninth grade students and their parents that were higher than those in the control schools except that significantly more Higher Horizons than control parents aspired to have their sons attend academic or commercial high schools. The control girls, on the other hand, register higher on occupational choice and future educational plans. At the eighth grade, no differences in vocational choice appear between Higher Horizons and control students. However, where students were given a free choice in an unstructured approach, the experimental group expressed higher vocational aspirations.
11. The Higher Horizons Program tends to improve the attendance rate.
12. The Higher Horizons Program tends to decrease the suspension rate, but not the truancy rate as compared to comparable controls.
13. In general, teachers in Higher Horizons schools favor the Program. They feel that the Program needs improvement in some areas, but that it provides many cultural benefits and opportunities, as well as additional services.
14. The principals of junior high schools in which the Higher Horizons Program operated are unanimous in wanting it to be continued, primarily because of the extra remedial and guidance services.

APPENDICES

APPENDIX A

Development of Classroom Discipline Scale

Reliability Coefficients of Classroom Discipline Scale

Classroom Discipline Scale

Development of Classroom Discipline Scale

A study of existing instruments for assessing the classroom behavior of elementary school pupils indicated that they were inappropriate for the population being studied. It was felt that a Scale based on the kinds of classroom discipline problems actually encountered by the teachers in the schools being studied would have greater validity and value for the purposes of this investigation. Furthermore, it was also assumed that there might be differences in the nature of the behavior problems encountered in the third grade as compared to the fifth grade.

The guidance counselors in forty elementary schools were asked to compile lists of at least ten of the most common classroom behavior problems experienced by the third and fifth grade teachers in these schools. These lists were prepared in consultation with the teachers, one for the third grade and one for the fifth, and submitted to the investigator in October, 1961. The lists of behavior items were analyzed and it was found that they contained ten categories of discipline problems which were identical for the third and fifth grades. The ten categories were:

1) Lack of interest in school 2) defiance of teacher and disruption of class routine 3) restlessness 4) obscene language 5) stealing 6) cheating and lying 7) aggressive behavior involving physical contact with others 8) provocative behavior 9) withdrawn 10) sullen attitude.

The Final Classroom Discipline Scale

A preliminary draft of the Classroom Discipline Scale was prepared based on the data contained in the lists of classroom behavior submitted by the schools.

On November 8, 1961, a conference of guidance counselors[1] was held to evaluate this preliminary draft. On the basis of the recommendations of this committee and the professional staff members of the Bureau of Educational Research, the final form of the Scale was prepared.

Reliability

Measures of the reliability of the Scales were obtained by the split-half method. The Spearman-Brown prophecy formula was used to obtain the reliability of the entire Scale. Two sets of scores were obtained, the first set representing the sum of the teacher rating on the odd numbered items of the Scale: 1, 3, 5, 7, and 9; the second set of scores were the sum of the ratings on the even numbered items: 2, 4, 6, 8, and 10.

Reliability coefficients were obtained from a sample of 100 completed Scales from the experimental and 100 from the control schools. The samples consisted of equal numbers of boys and girls selected at random.

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[1] The guidance counselors attending this meeting were Mrs. Minnie Kornfeld of PS157M, Miss Estelle Pizer of PS36Q, Mrs. Lenore Simowitz of PS171Q, Miss Claire Wishart of PS72M, and Mrs. Rose amso, District Guidance Coordinator, Districts 45-46Q.

The results are given below.

Reliability Coefficients of Classroom Discipline Scale

Group	N	Reliability Coef.
Third Grade	100	0.90
Fifth Grade	100	0.88

The reliability coefficients obtained were high enough for the purpose intended.

CLASSROOM DISCIPLINE SCALE

Name of Pupil ______________________________ Sex ____________ Date ____________________

Teacher __________________________________ Class ____ School ____ Borough ____________

Below is a list of ten common classroom problems found among children in elementary school. Please place a check (✓) after each item in the appropriate column to designate how frequently such behavior has occurred in your experience with this child. Please rate the children who have been in your class for at least one month.

	Frequency of Occurrence				
CLASSROOM PROBLEM	Never	Rare (1-2 a term)	Occasional (Once a month)	Frequent (Once a week)	Very Freq. (2-3 times a week)
1 Lack of interest in school, "Don't Care" attitude, i.e. not doing homework, coming to school without books, pencils, inattentive, etc.					
2 Defiance of teacher and disruption of class routine, "Make Me" attitude, i.e. talking out, talking back, not following or refusing to follow, etc.					
3 Restless, i.e. fidgeting, walking around room talking to neighbor, etc.					
4 Obscene language, notes, gestures, cursing, etc.					
5 Stealing - i.e. taking other peoples' possessions, etc.					
6 Cheating, lying					
7 Physical contact with others Fighting, punching, pushing, hitting, tripping others, destroying property, etc.					
8 Provocative behavior, i.e. Name calling, teasing, bullying, tattling, poking fun at others, etc.					
9 Withdrawn from group, social and class activities, daydreaming, etc.					
10 Emotional outbursts, i.e. Temper tantrums, etc.					
11 Others:					

Comments:

APPENDIX B

Development of Pupil Self-Rating and Teacher Rating Scale of Pupil Growth

Pupil Self-Rating Scale of Growth

Pupil Self-Rating Scale

Teacher Rating Scale of Pupil Growth

DEVELOPMENT OF PUPIL SELF-RATING AND TEACHER RATING SCALE OF PUPIL GROWTH

The "Pupil Self-Rating Scale" and the "Teacher Rating Scale of Pupil Growth" are adaptations of the "How Do I Rate" Scale developed by the Bureau of Educational Research in connection with another study involving the measurement of pupil attitudes.[1] The pupil and teacher forms of the Scale were developed from the same body of items. A preliminary scale of twenty items was developed which included five items in each of the following areas: pupils' attitude towards school, towards others, towards self and work habits. These items were selected in consultation with school guidance counselors and members of the professional staff of the Bureau of Educational Research.

This preliminary scale was administered to 211 fifth grade pupils in two non-experimental Higher Horizons elementary schools.

Reliability coefficients were obtained by the split-half method using the Spearman-Brown prophecy formula.[2] The results are as follows:

School	Grade	N	Reliability Coefficients "Then"	Reliability Coefficients "Now"
A	5th	106	0.92	0.96
B	5th	105	0.89	0.88
A+B	5th	211	0.91	0.93

On the basis of constructive criticisms submitted by teachers and guidance counselors who were involved in the administration of this preliminary form, the scales were reduced to sixteen items, four in each area. This revised scale was then administered to 190 fifth grade pupils in two other non-experimental Higher Horizons elementary schools, The pupil responses were analyzed by the split-half method for obtaining reliability coefficients. The results were as follows:

School	Grade	N	Reliability Coefficients "Then"	Reliability Coefficients "Now"
C	5th	82	0.81	0.92
D	5th	92	0.89	0.89
C+D	5th	174	0.86	0.91

These values are sufficiently high for the purposes of these Scales.

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[1] Wrightstone, J.W. and Forlano, G., An Evaluation of the Core Program in Selected Seventh and Eighth Grade Classes, Board of Education of the City Of New York, Bureau of Educational Research, Pub. No. 39, Sept. 1959.

[2] Garrett, N.E., Statistics in Psychology and Education, Longman, Green and Co., 5th Edition, 1958, 339.

PUPIL SELF-RATING SCALE OF GROWTH

Directions

(TO BE READ BY TEACHER)

How much have you grown in height since the beginning of this school year? Not at all, very little, a little, a lot or very much? How much have you improved in reading, in writing, in school attendance this school year? Of course we do not grow the same amount in all these things. In some things we grow a lot, in some a little, in others we do not grow at all, and we may even slip back.

On the next page is a list of things you do in school. You are to rate yourself twice for each thing on the list. First think back to the beginning of this school year and rate yourself as you think you were then. Then rate yourself as you think you are now. To help you, use the following scale, to compare yourself with the other children in your class, then and now.

Self-Rating Scale

lowest middle highest

1 2 3 4 5

Beginning of the Year THEN	EXAMPLE	End of the Year NOW
lowest middle highest 1 [✓ 2] 3 4 5	1. Remembering to bring homework to school.	lowest middle highest 1 2 3 [✓ 4] 5

This pupil rated himself 2 at the start of this school year and 4 now. He thinks he has improved 2 points on this item.

1 2 3 [✓ 4] 5	2. Coming to school on time.	1 2 3 [✓ 4] 5

This pupil rated himself 4 at start of the term and 4 now. He does not think he has changed.

Rate yourself twice on each of the sixteen items on the list. Be sure to rate yourself as you were at the beginning of the year and as you are now. Do every item.

Pupil Self-Rating Scale

Name______________________________________ Boy Girl
(Print Last Name First) (Circle One)
Class__________________ P.S.__________________ Boro.________________

Beginning of Year THEN						End of the Year NOW				
Lowest		Middle		Highest	ITEM	Lowest		Middle		Highest
1	2	3	4	5	1. Doing homework.	1	2	3	4	5
1	2	3	4	5	2. Being sure of myself, having confidence.	1	2	3	4	5
1	2	3	4	5	3. Being happy at school.	1	2	3	4	5
1	2	3	4	5	4. Respecting the rights of others in the class.	1	2	3	4	5
1	2	3	4	5	5. Making friends in my class.	1	2	3	4	5
1	2	3	4	5	6. Taking part in class committee projects.	1	2	3	4	5
1	2	3	4	5	7. Wanting to learn and improve myself.	1	2	3	4	5
1	2	3	4	5	8. Studying for class tests.	1	2	3	4	5
1	2	3	4	5	9. Doing class work when told.	1	2	3	4	5
1	2	3	4	5	10. Doing better in class work.	1	2	3	4	5
1	2	3	4	5	11. Liking my teacher.	1	2	3	4	5
1	2	3	4	5	12. Getting along with the other children in my class.	1	2	3	4	5
1	2	3	4	5	13. Helping other pupils in the class.	1	2	3	4	5
1	2	3	4	5	14. Offering to do things in the class.	1	2	3	4	5
1	2	3	4	5	15. Doing the best I can.	1	2	3	4	5
1	2	3	4	5	16. Finishing a job.	1	2	3	4	5

NOTE: Please make sure that you have rated yourself twice for each of the sixteen items. Do not omit any item.

Teacher Rating Scale of Pupil Growth

The purpose of this Scale is to determine how much growth the pupils in your class have shown with respect to the items listed below. Please rate each pupil twice, as he or she was at the beginning of the school year and as he or she is now at the end of the year. Number one (1) on the Scale represents the position of the lowest pupil in your class, three (3) the average pupil, and five (5) the highest pupil in your class. Circle the number on the Beginning of the Year Scale and again on the End of the Year Scale.

Name of Pupil______________________________ (Print Last Name First) Boy Girl (Circle One) I.Q.____ How long with school________

Teacher____________________________________ Class_________ P.S.______ Boro._________

Beginning of the Year THEN Lowest Middle Highest	ITEM	End of the Year NOW Lowest Middle Highest
1 2 3 4 5	1. Doing homework.	1 2 3 4 5
1 2 3 4 5	2. Being sure of himself, having confidence.	1 2 3 4 5
1 2 3 4 5	3. Being happy at school.	1 2 3 4 5
1 2 3 4 5	4. Respecting the rights of others in the class.	1 2 3 4 5
1 2 3 4 5	5. Making friends in your class.	1 2 3 4 5
1 2 3 4 5	6. Taking part in class committees, projects.	1 2 3 4 5
1 2 3 4 5	7. Wanting to learn and improve himself.	1 2 3 4 5
1 2 3 4 5	8. Studying for class tests	1 2 3 4 5
1 2 3 4 5	9. Doing class work when told	1 2 3 4 5
1 2 3 4 5	10. Doing better in class work	1 2 3 4 5
1 2 3 4 5	11. Liking the teacher.	1 2 3 4 5
1 2 3 4 5	12. Getting along with the other children in your class.	1 2 3 4 5
1 2 3 4 5	13. Helping other pupils in the class.	1 2 3 4 5
1 2 3 4 5	14. Offering to do things in class.	1 2 3 4 5
1 2 3 4 5	15. Doing the best that he can.	1 2 3 4 5
1 2 3 4 5	16. Finishing a job.	1 2 3 4 5

NOTE: Please make sure that you have rated the pupils twice for each of the sixteen items. Do not omit any item.

APPENDIX C

Directions to Sixth Grade Teachers for Administration of the Pupil Self-Rating Form and the Completion of the Teacher Rating of Pupil Forms

Development of School Attitude and Adjustment Scale - Pupil Self-Rating

Development of School Attitude and Adjustment Scale - Teacher Rating of Pupils

DIRECTIONS TO SIXTH GRADE TEACHERS FOR ADMINISTRATION OF THE PUPIL SELF-RATING FORM AND THE COMPLETION OF THE TEACHER RATING OF PUPIL FORMS

I. Administration of the Pupil Self-Rating Forms

This Scale is an attempt to measure the attitude and adjustment of the pupils in your class towards school.

Please follow the instructions which are based on previous experiences in developing and administering the Scale.

1. Before distributing copies of the Scale to the pupils in your class please read the following selection to them.

   "Now that we have been together since September, it would be helpful if you check yourself on your attitude towards school and how well you are getting along. Remember, this is not a test; there is no passing or failing mark. I will not look at your papers or your answers. Anything you say will be confidential. Please try to be as accurate as you can."

2. Distribute one form to each pupil. Then have the class complete the headings at the top of the Scale.
3. Read the directions to the classpaying particular attention to the example given. When you are certain that every pupil knows exactly what to do and you have answered their questions, inform them that there is no time limit.
4. At a given signal from you, the pupils begin to rate themselves. There must be no talking or communication while they are working.
5. When they have completed the Scale, ask the pupils to check their papers to see whether they have answered each of the 12 items.
6. Collect the papers. Check to see that there are 12 responses on each paper, Arrange them alphabetically, boys and girls separately.

II. Completion of Teacher Rating of Pupil Forms

1. On the enclosed Class List forms transcribe the names of the boys and girls who have been in your class as of October 31, 1962, separately and alphabetically.
2. For each pupil whose name appears on the Class List, fill in all identifying data at the top of the form. Be sure to include the last recorded I.Q., and how many years the pupil has been in the school.
3. Using the seven point Scale on the form, rate the pupils on each of the twelve items. Do not omit any items.
4. When you have completed a form for each pupil, please arrange the papers alphabetically, boys and girls separately.
5. Place (a) the completed Pupil Self-Rating Forms, (b) the completed Teacher Rating of Pupil Forms, and (c) the Class List in the envelope provided by the school. Return the envelope to the guidance counselor or the teacher in charge of testing.

Thank you for your cooperation.

DEVELOPMENT OF SCHOOL ATTITUDE AND ADJUSTMENT SCALE

Pupil Self-Rating

Name ______________________________ Boy Girl
(Print Last Name First) (Circle One)

Class ____________________ P.S. __________ Borough ____________

DIRECTIONS: Will you please rate yourself on each of the twelve items below. Think very carefully about each one. When you have decided how you want to rate yourself, circle one and only one of the numbers to the right of the item. For example:

ITEM	RATING SCALE						
	Always	Almost Always	Usu-ally	Some-times	Seldom	Hardly Ever	Never
Paying attention in class	7	6	[✓ 5]	4	3	2	1

This pupil rated himself 5. He feels that he usually pays attention in class.

Now rate yourself just once for each item

ITEM	RATING SCALE						
	Always	Almost Always	Usu-ally	Some-times	Seldom	Hardly Ever	Never
1. Liking to come to school	7	6	5	4	3	2	1
2. Respecting the rights of others	7	6	5	4	3	2	1
3. Having self confidence	7	6	5	4	3	2	1
4. Making friends in class	7	6	5	4	3	2	1
5. Wanting to learn and improve myself	7	6	5	4	3	2	1
6. Doing class work when told	7	6	5	4	3	2	1
7. Getting along with other pupils	7	6	5	4	3	2	1
8. Volunteering to do things in class	7	6	5	4	3	2	1
9. Finishing a job	7	6	5	4	3	2	1
10. Liking teachers	7	6	5	4	3	2	1
11. Doing the best I can	7	6	5	4	3	2	1
12. Thinking school is important	7	6	5	4	3	2	1

DEVELOPMENT OF SCHOOL ATTITUDE AND ADJUSTMENT SCALE

Teacher Rating of Pupils

Teacher ______________________________ Date ______________

Please complete all the pupil identifying items below:

Name of Pupil __________________________ Boy Girl
(Print Last Name First) (Circle One)

Class _______________ P.S.___________ Borough _______________

DIRECTIONS: For each of the twelve items please rate the pupil whose name appears above in relation to the members of his (her) class, using the following scale:

7 - outstanding; 6 - superior; 5 - above average; 4 - average;
3 - below average; 2 - poor; 1 - very poor.

	ITEM	RATING SCALE (Circle)						
1.	Likes coming to school	7	6	5	4	3	2	1
2.	Respects the rights of others	7	6	5	4	3	2	1
3.	Has self confidence	7	6	5	4	3	2	1
4.	Makes friends in class	7	6	5	4	3	2	1
5.	Wants to learn and improve	7	6	5	4	3	2	1
6.	Does class work when told	7	6	5	4	3	2	1
7.	Gets along with other pupils	7	6	5	4	3	2	1
8.	Volunteers to do things in class	7	6	5	4	3	2	1
9.	Finishes a job	7	6	5	4	3	2	1
10.	Likes teachers	7	6	5	4	3	2	1
11.	Does the best he (she) can	7	6	5	4	3	2	1
12.	Regards school important in his (her) life	7	6	5	4	3	2	1

APPENDIX D

Development "About Myself" Inventory

Directions to Teacher for Administration of Pupil Self-Rating "About Myself" Scale

About Myself Scale

DEVELOPMENT "ABOUT MYSELF" INVENTORY

The "About Myself" Inventory is an adaptation of the "Inventory of Self-Attitude," a checklist of 25 abilities developed at Columbia University for studying high school academic high and low achievers. It was tailored for use in the elementary school, in consultation with school guidance counselors and the professional staff of the Bureau of Educational Research.

Preliminary drafts of this Inventory were administered to sixth grade pupils in two Higher Horizons schools not included in this study for the purpose of determining the reliability of this instrument.

Measures of the reliability of the Inventory were obtained by the split-half method. The Spearman-Brown prophecy formula was used to estimate the self-correlations of the whole test. The first score represented the sum of the pupil estimates on the odd numbered items, the second score the sum of the estimates on the even numbered items.

Reliability coefficients were obtained from a sample of about 200 sixth grade pupils in two schools. The results are given below.

Reliability Coefficients by Split-Half Technique of the "About Myself" Inventory

Group	N	Reliability Coefficients Self-Concept	 Ideal-Concept
A	122	0.81	.80
B	75	0.95	.80
A+B	197	0.90	.80

To determine the stability of test scores, the test was given and repeated on the same group of pupils. The first administration was November 26, 1962, the second was two weeks later, on December 9, 1962.

Reliability Coefficients by Test-Retest Method of the "About Myself" Inventory

Group	N	Reliability Coefficient Self-Concept	 Ideal Concept
A	104	0.74	0.63

These coefficients are sufficiently high for the measurement of group differences.

DIRECTIONS TO TEACHER FOR ADMINISTRATION OF PUPIL SELF-RATING "ABOUT MYSELF" SCALE

The pupils in your class are being asked to rate themselves on a five point scale with respect to sixteen abilities. The Scale is intended to find out how pupils estimate their abilities at present and also what their aspirations are with respect to the items listed.

Will you please follow the directions given below in administering the Scale.

1. Before distributing copies of the Scale, please tell your class that they are being asked to rate themselves for 16 abilities. This is not a test; there are no passing or failing marks. Their answers are confidential and will not be seen by you or anyone in the school. It is important that they answer each and every question as carefully and as accurately as they can.

2. Distribute copies of the Scale, one to each pupil present, and ask the class to fill in the headings: name, class, P.S., Boro, and circle either boy or girl. Also distribute slips of paper 8½ x 2".

3. Now read the DIRECTIONS to the class. Please write the EXAMPLE on the blackboard. Permit pupils to ask questions. Do not allow pupilsto start the rating until they understand that they must rate themselves twice for each item: first, under Column I, "My Ability At Present Is" and then under Column II, "I Wish My Ability Were." Also, be sure that they understand the rating scale, 1 being the lowest and 5 the highest.

4. Since pupils tend to skip some items, please have them place the 8½ x 2" strip of paper under the first item A - "To be a leader." Read the item to the class, and have them rate themselves twice, first in column I and in column II. Then ask the pupils to move the slip of paper down to the second item B - "To Work On My Own" and repeat the above procedure. Continue in this manner until all 16 items have been answered twice.

5. Ask pupils to check their responses. There should be 16 numbers (ratings) circled under Column I, and 16 under Column II.

6. Collect the completed scales and return them according to instructions.

ABOUT MYSELF SCALE

Name______________________________ Class________ P.S.______ Boro______ Boy Girl (Circle One)

DIRECTIONS: Below are sixteen statements on which you are being asked to rate yourself twice. First in Column I "My Ability At Present", and then in Column II, "I Wish My Ability Were."

For each item circle one of the numbers (1-5) to the left under Column I which best describes what you think your Present Ability is. Then, circle the number to the right of the item under Column II which best describes what you Wish your ability were for the same item.

EXAMPLE

Column I MY ABILITY AT PRESENT IS						Column II I WISH MY ABILITY WERE				
Very Great	Great	Average	Not Too Great	Some What Small		Very Great	Great	Average	Not Too Great	Some What Small
5	4	3	(2)	1	A. To play ball	5	(4)	3	2	1

This pupil felt that his present ability "to play ball" was not too great, so he circled (2) not too great. However, he wished his ability "to play ball" was great, so he circled (4) great.

Column I MY ABILITY AT PRESENT IS					ABILITIES	Column II I WISH MY ABILITY WERE				
Very Great	Great	Average	Not Too Great	Some What Small		Very Great	Great	Average	Not Too Great	Some What Small
5	4	3	2	1	A. To be a leader	5	4	3	2	1
5	4	3	2	1	B. To work on my own	5	4	3	2	1
5	4	3	2	1	C. To speak before the class	5	4	3	2	1
5	4	3	2	1	D. To express ideas in writing	5	4	3	2	1
5	4	3	2	1	E. To think clearly	5	4	3	2	1
5	4	3	2	1	F. My artistic ability	5	4	3	2	1
5	4	3	2	1	G. My athletic ability	5	4	3	2	1
5	4	3	2	1	H. My musical ability	5	4	3	2	1
5	4	3	2	1	I. My acting ability	5	4	3	2	1
5	4	3	2	1	J. My mechanical ability	5	4	3	2	1
5	4	3	2	1	K. My ability to get along with others	5	4	3	2	1
5	4	3	2	1	L. My self confidence	5	4	3	2	1
5	4	3	2	1	M. My appearance	5	4	3	2	1
5	4	3	2	1	N. My eagerness to learn	5	4	3	2	1
5	4	3	2	1	O. My physical health	5	4	3	2	1
5	4	3	2	1	P. My imagination	5	4	3	2	1

APPENDIX E

Evaluation of Higher Horizons Program - Elementary School Principals' Questionnaire

Principals' Questionnaire

The ultimate objectives of the Higher Horizons Program are no different from those of our school system in general. However, there are specific goals and procedures emphasized in the Higher Horizons Program. We have listed below some of the goals and procedures described by the Higher Horizons coordinator. Please rate each of the following statements in terms of the degree of effectiveness the Program has had in attempting to fulfill these objectives and utilize the procedures. Circle the number which best describes, in your opinion, how effective the Higher Horizons Program has been for most of the children, parents and teachers involved.

0	Adverse Effect	2	Some Positive Effect
1	No Effect	3	Outstanding Positive Effect

0 1 2 3 HH guidance practices identified abilities, interests and needs of children

0 1 2 3 HH guidance practices raised levels of aspiration of the children

0 1 2 3 HH guidance practices stimulated children to attain levels commensurate with their ability

0 1 2 3 The HH guidance program consisted of intensive educational and vocational individual and group counseling sessions

0 1 2 3 The HH guidance program educated parents in guidance objectives and goals

0 1 2 3 The HH guidance program assisted with in-service training of teachers

0 1 2 3 The HH guidance program developed new tools, techniques, procedures and materials

0 1 2 3 HH teacher training procedures helped teachers identify students with academic ability

0 1 2 3 HH teacher training procedures helped teachers provide methods for helping children realize their academic potential

0 1 2 3 HH teacher training procedures helped teachers set goals for children which are based on potential rather than on past achievement

0 1 2 3 HH teacher training procedures defined the role of the classroom teacher in the Program

0 1 2 3 HH teacher training procedures stimulated teacher participation in the Program

0 1 2 3 Cultural experiences in the HH Program raised childrens' cultural sights

0 1 2 3 Cultural experiences in the HH Program provided opportunities not usually provided by the home or community

0 1 2 3 Cultural experiences in the HH Program raised the aspirations of children and improved their self-image

0 1 2 3 The HH curriculum was enriched in academic and cultural areas.

0 1 2 3 The HH curriculum was adapted to utilize existing school facilities, such as libraries

0 1 2 3 Remedial services for children with good academic potential were supplied in reading and also in other areas, in the HH Program

0 1 2 3 The HH Program helped parents understand the value of school in terms of their hopes for their children

0 1 2 3 The HH Program gave parents a better understanding of the community resources and educational opportunities available to them and to their children

0 1 2 3 The HH Program aided parents in providing an atmosphere of encouragement and stimulation for their children

0 1 2 3 The HH Program enlisted the assistance of community agencies in supplying necessary services

0 1 2 3 The HH Program gave to teachers and parents faith in children, and gave to children faith in themselves.

All things considered, are you in favor of the Higher Horizons Program being:
Continued?______________________Discontinued?____________Modified?____________

Please check one of the above and describe your reasons briefly.

How many years have you been in this school either as appointed or acting principal?____________________________

APPENDIX F

Evaluation of Higher Horizons Program - Elementary School Teachers' Questionnaire

PLEASE FILL IN THE FORMATION REQUESTED BELOW AND RETURN WITH ATTACHED QUESTIONNAIRE
(All data is confidential and will be used for interpretive purposes only.)

1. P. S. ________ Boro ________

2. Were you on duty in this school during the school year:

	YES	NO
1958-59		
1959-60		
1960-61		
1961-62		
1962-63		

3. Do you expect to be on duty in this school during 1963-64?

Yes ________ No _____

4. Did you teach Higher Horizons classes or groups of Higher Horizons students in:

	YES	NO
1959-60		
1960-61		
1961-62		
1962-63		

5. In addition to teaching, did you have any special job relating to the Higher Horizons Program? (Please describe job and grade levels involved for the following years, e.g., part-time counselor, trip coordinator, remedial services, etc.)

1959-60

1960-61

1961-62

1962-63

6. Years total teaching experience: less than 3 yrs. _____; 3-5 yrs. _____; 6-10 yrs. _____; more than 10 yrs. ______.

THANK YOU FOR YOUR COOPERATION!

TEACHERS' QUESTIONNAIRE

Below is a list of some of the goals of the Higher Horizons Program and some of the methods and procedures emphasized in reaching these goals. Please rate each statement in terms of the degree of effectiveness you think the Higher Horizons Program has had in attempting to meet these objectives, as compared with non-Higher Horizons programs.

Circle a number (0, 1, 2 or 3) which best describes, in general, your opinion of how effective the Higher Horizons Program has been for most of the teachers, parents and children involved.

RATING SCALE:
0 The HH Program had an ADVERSE EFFECT
1 The HH Program had NO EFFECT
2 The HH Program had SOME POSITIVE EFFECT
3 The HH Program had OUTSTANDING POSITIVE EFFECT

DO YOU THINK THE HIGHER HORIZONS PROGRAM HAS EFFECTIVELY:

0 1 2 3 Improved students' scholastic achievement?
0 1 2 3 Improved students' study habits?
0 1 2 3 Improved students' attitudes to learning?
0 1 2 3 Improved students' classroom behavior?
0 1 2 3 Improved students' relations with their peer group and with their teacher?
0 1 2 3 Improved students' interest in books, art, music, theatre, museums, etc.?
0 1 2 3 Raised students' educational goals to high school graduation?
0 1 2 3 Raised students'educational goals beyond high school completion?
0 1 2 3 Raised students' vocational aspirations?
0 1 2 3 Identified students with academic potential?
0 1 2 3 Identified students with talents other than academic?
0 1 2 3 Improved parents' interest in the school?
0 1 2 3 Increased parents' cooperation with the school?
0 1 2 3 Increased parents' understanding of educational and career opportunities?
0 1 2 3 Raised parents' aspirations for their childrens' education?
0 1 2 3 Raised parents' goals for their childrens' vocational plans?
0 1 2 3 Increased number of parent-teacher interviews?
0 1 2 3 Increased number of parent-counselor interviews?
0 1 2 3 Helped teachers identify potentially able students?
0 1 2 3 Raised teachers'educational goals for these students?
0 1 2 3 Helped teachers in adapting and enriching the curriculum?
0 1 2 3 Provided teachers with additional information about students' background?
0 1 2 3 Provided teachers with additional guidance, remedial & counseling services?
0 1 2 3 Assisted teachers in using cultural activities for curriculum purposes?
0 1 2 3 Aided teachers because the Program was planned and executed cooperatively?

All things considered, are you in favor of the Higher Horizons Program being:
Continued?________________ Discontinued?________________ Modified?__________

Please check one of the above and describe your reasons briefly. (Use back of page if desired.)

APPENDIX G

Instruction to the Teacher for Completing
The Teacher Estimate Forms

Teacher Estimate of Student Potential

INSTRUCTION TO THE TEACHER FOR COMPLETING THE TEACHER ESTIMATE FORMS

To supplement the instructions given you by the school for completing these forms, the following reminders might help you in your task:

1) The value of the data entered on these forms and the value of a three year research study depends in large measure upon the careful consideration you give each entry.

2) You are involved in a study which is attempting to determine how well teachers can identify children with potential for school success.

3) Discount any knowledge you may have of the student's performance on I.Q., standardized achievement or other like indicators of student ability. This study is founded on the assumption that you can tell student potentiality better than any test. Even discount class tests since certain factors operate in achievement testing that may obscure true potential.

4) Complete the forms during the next two week period whenever you can give them your thoughtful attention; please do not treat them cursorily.

5) It is absolutely essential that every item on the form or in the heading be entered.

6) Item "K" is to be rated regardless of whether the student is planning to take an academic, commercial, general or vocational course in either an academic or vocational high school. Rate the item as it reads.

Thank you for the effort and time you are about to expend on these forms. The important nature of the study has necessitated this imposition on you; please know that we are most grateful.

TEACHER ESTIMATE OF STUDENT POTENTIAL

STUDENT'S NAME__________________________ STUDENT'S OFFICIAL CLASS__________

TEACHER'S NAME__________________________ SUBJECT CLASS__________SCHOOL__________

DIRECTIONS:

Below are items indicating student potential. Please rate the child carefully on each item. Rely upon your personal knowledge of the child's work in your class rather than upon any standard test scores.

To help you we have provided a scale of ten points. One (1) represents a rating of low academic potential; it means the child practically never indicates ability in your class for the particular item involved. Ten (10) indicates a rating of high academic potential; it means the child practically always indicates ability in your class for the particular item.

1	2	3	4	5	6	7	8	9	10

NEVER (Low potential) SOMETIMES ALWAYS (High potential)

A_______ Seems interested in the subject matter of my class.

B_______ Shows an ability to generalize in my class.

C_______ Shows constructive leadership ability in class work.

D_______ Indicates in some way in class a desire to get ahead.

E_______ Shows breadth or depth of knowledge in a particular area.

F_______ Learns things in which he's interested quickly or well.

G_______ Does such voluntary extra work as projects, readings, etc.

H_______ Performs well on major classroom tests I have given.

I_______ Demonstrates an ability to make correct judgments.

J_______ Shows an ability to compare or contrast.

K_______ Shows ability to take an academic course in high school.

APPENDIX H

The Development of the Behavior Rating Scale

Behavior Rating Scale

THE DEVELOPMENT OF THE BEHAVIOR RATING SCALE

The Behavior Rating Scale used in this study was developed from the items submitted on a survey form of most common classroom problems and returned by 162 teachers from 9 experimental and 9 control schools. In all, forty-two items were initially available for the Scale.

The initial step in developing the Scale was to select from the forty-two items those most appropriate for the Scale. The initial cut-off criterion was the frequency ranking column since an infrequent listing in this column used in the original tallying would automatically exclude the item from any categorization as a most common classroom problem. Exclusion on this basis left 25 of the original 42 items; these 25 items had received frequency counts of ten or more. These items were arranged in a checklist format for use in the pre-test. After each of the items, space was provided in which the teacher could place a check indicating whether the particular behavior occurred, "Never", "Rare", "Occasional", "Frequent", "Almost Always".

The pre-test was conducted in one Higher Horizons school and in one control school. Six ninth year classes in each school were selected so that they covered the range of ability in ninth year. The teacher of each class selected was instructed to complete the pre-test forms for every third pupil in class in accordance with a set of instructions accompanying the forms. The teacher participating was a major subject teacher for the particular class. Both schools were excluded from the final study.

Upon return of the forms the results were subjected to an item analysis. Difficulty and discriminative item values were arrived at by using the procedure of extreme groups. Items having low correlations with total score and items having unsuitable difficulty indices were rejected from the final form.

Other aspects of the original twenty-five items in the pre-test were surveyed. In the instructions to teachers, they were asked to indicate other drawbacks any of the items or the checklist itself seemed to have: as inadequacy of the form itself; shortcomings of the frequency of occurrence category headings; ambiguity of items; repetitious nature of items; other criticism.

A synthesis of the results of the initial survey form, pre-testing, analysis and teacher reviews was made for each item. Only five items of the twenty-five had to be rejected. Only the ten best items were selected to reduce the workload for teachers. The reliability for the Scale based on pre-test results for the ten items selected was .88; the Kuder-Richardson formula 20 was used to compute this correlation.

Behavior Rating Scale

STUDENT'S NAME____________________________________ BOY______ GIRL_____ (Check one)

TEACHER'S NAME____________________________________ SCHOOL_____ BORO_____ CLASS______

NUMBER OF YEARS STUDENT HAS BEEN IN THIS SCHOOL: ___3___ ; ___2___ ; __1__ (Check one)

INSTRUCTIONS: Rate the child on each of the items below by placing a check in the appropriate column at the right indicating the degree of frequency with which the misbehavior occurs. Restrict your answers to the child's behavior in your classroom.

DEGREES OF FREQUENCY	NEVER No Occurrence	RARE Once or Twice	OCCASIONAL about once a month	FREQUENT about once a week	ALMOST ALWAYS Two or Three times a week
1. Whispers or talks in class					
2. Calls across the room; yells or shouts					
3. Calls out answers without permission					
4. Makes noises in class such as whistling, drumming on desks, humming, etc.					
5. Talks back to the teacher					
6. Disturbs children who are working well					
7. Refuses to follow class regulations; e.g. combing hair, wearing sweaters, etc.					
8. Comes unprepared to class.					
9. Leaves the seat without permission					
10. Creates a hazard by engaging in playful shoving, pushing or hitting					

Compared to other children in this school I would say thatthis child's behavior is:

____Exemplary ____Better than Average ____Average ____Below Average ____Poor

APPENDIX I

Development of Student Self-Rating and Teacher Rating of Student Attitude Forms

Teacher Rating of Student Attitude Form

Student Rating Form

Excerpt from Instructions for the Teacher

The Personal Data Sheet

DEVELOPMENT OF STUDENT SELF-RATING AND TEACHER RATING OF STUDENT ATTITUDE FORMS

The Student Self-Rating Form and the Teacher Rating of Student Attitude Form were developed from the same body of items. The original pool of items included 5 items indicative of a student's attitude toward other classmates, 2 concerning his attitude toward the teacher, 11 concerning behavior in class, 7 indicative of work habits, 8 motivational items and 3 achievement items. These 36 items were drawn from previous surveys undertaken in connection with other aspects of the evaluation and from literature in the field.

A checklist of the 36 items was sent to five schools, Each school had one guidance counselor and three teachers place a check next to the 12 items they thought were most indicative of a student's attitude toward school. Once the 12 items had been checked they were requested to indicate which of the 12 items was the best indicator of attitude by writing the number 1 next to that item, second best by entering the number 2, and so forth until 12 items had been ranked. This procedure was undertaken to secure content validity for the Forms.

Returns were analyzed both for frequency of checks and rank values. Twelve items were dropped for various reasons leaving a total of 24 for consideration on the pre-test form. Actually the pre-test form consisted of 31 items since some items were phrased two different ways to check consistency of response or to determine which phrasing was clearer to the raters. The pre-test forms differed from the final forms in that only three categories indicating improvement, no change, or decline were listed for each item instead of the five category Likert-type scale used in the final form. This was done to effect economy of scoring and statistics.

A pre-test was conducted on all grade levels of one experimental and one control junior high school. Teachers were also instructed to complete a Teacher Criticism Sheet listing criticism concerning instructions, items, and pertinent suggestions from their classroom experience.

A synthesis of the information derived from the sources described above resulted in 21 acceptable items for use in the Forms. Only the eleven best items were selected to effect economy of administration for the teachers who were burdened with testing at the time. The 1962-63 study consists of a Form of 20 items. The reliability for the eleven item form was .86 using the Kuder-Richardson formula No. 20.

TEACHER RATING OF STUDENT ATTITUDE FORM

Student's Name ______________________________ Student's Official Class _____

Teacher's Name ______________________________ Teacher's Subject Class _____

Junior High School #__________ Boro __________

DIRECTIONS: Below are some items found most indicative of a student's attitude toward school. Rate the student on each item TWICE. First, rate him on the item as he was at the beginning of the school year; second, rate him on the same item as he is now at the end of the school year. Follow this procedure for each item according to the above instructions and the sample below. Use the rating scale below in making your judgments.

Start of School Year	SAMPLE	Now
2	Being respectful to teachers	5

This teacher rated the student "2" at the beginning of the school year since the student seldom showed respect for the teacher. This student was quite a problem then. Due to proper guidance and good teaching techniques the student experienced a change in attitude so that he now is almost always respectful to the teacher. For this reason the teacher now rates him "5."

RATING SCALE

1	2	3	4	5
Hardly Ever	Seldom	Sometimes	Usually	Almost Always

Start of School Year		ITEMS	End of School Year
A.....	A.	PAYING ATTENTION IN CLASS	A.....
B.....	B.	COMING TO SCHOOL PREPARED FOR THE LESSON	B.....
C.....	C.	AVOIDING DISTURBING OTHER CHILDREN WHILE THEY WORK	C.....
D.....	D.	BEING FRIENDLY TO ALL OTHER STUDENTS	D.....
E.....	E.	DOING MY HOMEWORK	E.....
F.....	F.	MAKING EVERY EFFORT TO GET TO SCHOOL	F.....
G.....	G.	MAKING AN EFFORT TO LEARN AND OBEY SCHOOL RULES	G.....
H.....	H.	DOING HIS WORK WITHOUT TOO MUCH PROMPTING	H.....
I.....	I.	BEING COURTEOUS TO THE TEACHER	I.....
J.....	J.	THINKING ABOUT IMPROVING HIMSELF	J.....
K.....	K.	STARTING WORK AS SOON AS HE ENTERS CLASS	K.....

STUDENT RATING FORM

Print
Name ______________________________ Sex M-F _____ Age ___ Off.Class ______
School ______________________________ Boro ___ Number of years in this school:
1-2-3 (Circle)

DIRECTIONS: Now that the school year is coming to a close it would be valuable to check and see where you have made progress or where you may have fallen behind. Below are some of the attitudes and work habits most important for school success. Rate yourself on each item TWICE. First, think back to the start of the school year in September and rate yourself as you were at the start of the school year; then rate yourself again on the same item as you see yourself now at the end of the school year. To help you we have provided a rating scale and some sample entries. Review them now.

RATING SCALE

1	2	3	4	5
Hardly Ever	Seldom	Sometimes	Usually	Almost Always

(Example 1) Leroy's Sample Ratings
(Sample Item)

Start of School Year		Now at the end of the School Year
3	Being respectful to teachers	5

Leroy rated himself "3" at the start of this school year and "5" now. He feels that he now is practically always respectful to his teachers, but at the start of the year he sometimes was and sometimes wasn't.

(Example 2) Gloria's Sample Ratings

4	Being respectful to teachers	3

Gloria was respectful to her teachers most of the time back in September with a few exceptions. Now she finds that the teachers are speaking to her about being disrespectful a little more often, so she rated herself "3".

NOW RATE YOURSELF TWICE ON EACH OF THE FOLLOWING ITEMS:

Start of School Year	ITEMS	End of School Year
A.....	A. PAYING ATTENTION IN CLASS	A.....
B.....	B. COMING TO CLASS PREPARED FOR THE LESSON	B.....
C.....	C. AVOIDING DISTURBING OTHER CHILDREN WHILE THEY WORK	C.....
D.....	D. BEING FRIENDLY TO OTHER STUDENTS	D.....
E.....	E. DOING MY HOMEWORK	E.....
F.....	F. MAKING EVERY EFFORT TO GET TO SCHOOL	F.....
G.....	G. MAKING AN EFFORT TO LEARN AND OBEY SCHOOL RULES	G.....
H.....	H. DOING MY WORK WITHOUT TOO MUCH PROMPTING	H.....
I.....	I. BEING COURTEOUS TO THE TEACHER	I.....
J.....	J. THINKING ABOUT IMPROVING MYSELF	J.....
K.....	K. STARTING WORK AS SOON AS I ENTER CLASS	K.....

Excerpt from INSTRUCTIONS FOR THE TEACHER

1. Before issuing the forms prepare the students for the test by reading the following motivational selection to them. Please emphasize the sections underlined.

"NOW THAT YOU ARE ABOUT TO FINISH YOUR TERM'S WORK, IT WOULD BE VALUABLE TO JUDGE YOURSELF CONCERNING SOME OF THE MORE IMPORTANT SCHOOL ATTITUDES AND WORK HABITS. THIS WILL PROVIDE AN IMPORTANT PICTURE CONCERNING THINGS THAT HELP OR HINDER STUDENTS IN PURSUING SUCCESSFUL SCHOOL CAREERS. SINCE THIS IS NOT A "TEST" WITH ANY PASSING OR FAILING MARKS, YOU CAN BE COMPLETELY FRANK IN RATING YOURSELF.

AFTER THE FIRST FORM YOU RECEIVE IS COMPLETED BY YOU, YOU WILL BE GIVEN ANOTHER SHEET UPON WHICH YOU CAN RECORD INFORMATION FOR YOUR OWN PERSONAL BENEFIT. THIS SHEET, CALLED THE PERSONAL DATA FORM, WILL BE KEPT BY YOU AND TAKEN HOME FOR YOUR OWN PERSONAL BENEFIT.

BECAUSE THIS FORM YOU ARE ABOUT TO RECEIVE IS FOR YOUR PERSONAL BENEFIT AS WELL AS FOR OUR BENEFIT, BE AS ACCURATE AS YOUR MEMORY PERMITS IN MAKING YOUR JUDGMENTS ON THIS FORM. REMEMBER, YOU WILL KEEP ONE OF THE SHEETS THE TEACHER GIVES YOU FOR YOUR OWN USE."

THE PERSONAL DATA SHEET

This sheet is to be kept by the student.
Do not return it to the teacher.

INSTRUCTIONS

Now that you have entered ratings for all items on the Student Self-Rating Form, you are to use that form to get some information for yourself.

By using the form you just entered the ratings on, you can get the information that is to be entered below.

1. On how many items have I become better?______
2. On how many items have I not changed?______
3. On how many items have I become poorer?______
4. Of all the items I have improved in, what are the TWO items I think I improved in most: (Copy those items next to the letters immediately underneath):

   A.____

   B.____

5. Of all the items I have become "poorer" in, what are the TWO I think I need most to improve: (Copy those items next to the letters immediately underneath):

   C.____

   D.____

   TAKE THIS SHEET HOME WITH YOU AND REVIEW IT WITH THE FOLLOWING QUESTIONS IN MIND.

1. Are there more items on which I have become better than poorer?

2. What are the attitudes or work habits of mine that I have indicated in question 5 above as needing the most improvement? Why didn't I improve in these items this year? What must I do to improve in them next year?

3. What are the attitudes or work habits of mine that I have indicated in question 4 above as showing the most improvement? What did I do to bring about this improvement? What must I do next year to continue improving in these items?

4. Does the information I have on this sheet show that I have been doing a good job in school this year? _____Yes, _____No, _____Can't Tell.

APPENDIX J

Student Rating Form

Teacher Rating of Student Attitude Form

The Personal Data Sheet

STUDENT RATING FORM

Print
Name________________________________ Sex: M.-F.____ Age________ Official Class_____

School__________________________ Boro.__________ Number of years in this school:1-2-3
(Circle)

DIRECTIONS: Now that the school term is half over it would be valuable to check and see where you are making progress and where you are falling behind. Below are some of the attitudes and work habits most important for school success. Rate yourself on each item as you now seem to be. To help you we have provided the rating scale below. Use numbers from this scale to fill in each of the blanks listed below before each item.

Rating Scale

. 1 . 2 . 3 . 4 . 5 . 6 . 7 . 8 . 9 . 10 .

Hardly Ever — Seldom — Some-time — Usually — Almost Always

Rating — **Items**

A____ A. Paying attention in class
B____ B. Being respectful toteachers
C____ C. Coming to class prepared for the lesson
D____ D. Avoiding disturbing other children while they work
E____ E. Respecting the opinion of others
F____ F. Being friendly to all other students
G____ G. Starting work as soon as I enter class
H____ H. Doing my homework
I____ I. Making every effort to get to school
J____ J. Acting like a student who wants further education
K____ K. Helping other classmates with work they can't get
L____ L. Making an effort to obey school rules
M____ M. Getting along with most children in class
N____ N. Doing my work in class
O____ O. Taking good care of books and desks
P____ P. Bringing to school the things I will need
Q____ Q. Being courteous to the teacher
R____ R. Keeping orderly in the corridors
S____ S. Trying to get extra credit
T____ T. Showing a desire to improve myself in life

TEACHER RATING OF STUDENT ATTITUDE FORM

Name of Student______________________________ Official Class________ Sex: Boy Girl (Circle one)

Name of Teacher______________________________ Teacher's Subject Class______________

Junior High School #____________ Boro____________ Years student has been in school: 1 2 3

DIRECTIONS: Below are some items found most indicative of a student's attitude toward school. Rate the student on each item as he now seems to you from your experience with him in class. Use the rating scale below:

Rating Scale

1	2	3	4	5	6	7	8	9	10
Hardly Ever		Seldom		Sometime		Usually		Almost Always	

Rating	Items
A____	A. Pays attention in class
B____	B. Is respectful to teachers
C____	C. Comes to class prepared for the lesson
D____	D. Avoids disturbing other children while they work
E____	E. Respects the opinion of others
F____	F. Is friendly to all other students
G____	G. Starts work as soon as he enters class
H____	H. Does his homework
I____	I. Makes every effort to come to school
J____	J. Acts like a student who wants further education
K____	K. Helps other classmates with work they can't get
L____	L. Makes an effort to obey school rules
M____	M. Gets along with most children in class
N____	N. Does his work in class
O____	O. Takes good care of books and desk
P____	P. Brings to school the things he will need
Q____	Q. Is courteous to the teacher
R____	R. Keeps orderly in the corridors
S____	S. Trys to get extra credit
T____	T. Showing a desire to improve himself in life

THE PERSONAL DATA SHEET

This sheet is to be kept by the student
Do not return it to the teacher

INSTRUCTIONS

Now that you have entered ratings for all the items on the Pupil Self-Rating Form, you are to use that form to get some information for yourself.

By using the form you just entered the ratings on, you can get the information that is to be entered below.

1. On how many items have I scored high? ______

2. On how many items am I just average? ______

3. On how many items have I scored low? ______

4. Of all the items I am doing well in, what are the TWO items in which I am best? (Copy those items next to the letters immediately underneath):

   A. ____

   B. ____

5. Of all the items I am doing poorly in, what are the Two that need improvement most? (Copy those items next to the letters immediatley underneath):

   C. ____

   D. ____

TAKE THIS SHEET HOME WITH YOU AND REVIEW IT WITH THE FOLLOWING QUESTIONS IN MIND.

1. Are there more items on which I have scored high than low?

2. What are the attitudes or work habits of mine that I have indicated in question 5 above as needing the most improvement? Why didn't I improve in these items this term? What must I do to improve in them next term?

3. What are the attitudes or work habits of mine that I have indicated in question 4 above as showing the most improvement? What did I do to bring about this improvement? What must I do next term to continue improving in these items?

4. Does the information I have on this sheet show that I have been doing a good job in school this term? ____Yes, ____No, ____Can't tell.

APPENDIX K

Educational-Vocational Checklist - Boys

Educational-Vocational Checklist - Girls

Educational-Vocational Checklist - Boys and Girls

EDUCATIONAL-VOCATIONAL CHECKLIST - BOYS

NAME______________________________ CLASS_______ SCHOOL__________ BORO_______ DATE________

PART A

DIRECTIONS: On this sheet are ten sets of occupations. Each set contains five job titles. For each set check the one job you would most like to do. Place your check on the line in front of the job you choose. Please be sure to check ONE job in each set. When you finish you should have exactly ten checks on this sheet, one for each of the ten sets.

I. 1. ____ Detective
2. ____ Fireman
3. ____ Doctor
4. ____ Policeman
5. ____ Night Watchman

II. 1. ____ Truck Driver
2. ____ Auto Mechanic
3. ____ Radio Announcer
$. ____ Elevator Operator
5. ____ Guidance Counselor

III. 1. ____ Story Writer
2. ____ Laborer
3. ____ Radio, T.V. Repairman
4. ____ Bulldozer Operator
5. ____ Airplane Pilot

IV. 1. ____ Clothing Store Owner
2. ____ Animal Doctor
3. ____ Bus Boy
4. ____ Newspaper Reporter
5. ____ Waiter

V. 1. ____ Package Wrapper
2. ____ Professional Athlete
3. ____ Building Superintendent
4. ____ Dentist
5. ____ Barber

VI. 1. ____ Ticket Seller
2. ____ Bank Teller
3. ____ T.V. Actor
4. ____ Truck Driver's Helper
5. ____ Lawyer

VII. 1. ____ Plumber
2. ____ Teacher
3. ____ Usher
4. ____ Welfare (Social) Worker
5. ____ Bus Driver

VIII. 1. ____ X-Ray Operator
2. ____ Typist
3. ____ Scientist
4. ____ Electrician
5. ____ Gas Station Attendant

IX. 1. ____ Messenger
2. ____ Travel Agent
3. ____ Delivery Man
4. ____ Druggist
5. ____ Carpenter

X. 1. ____ Librarian
2. ____ Garbage Man
3. ____ Auto Salesman
4. ____ Mailman
5. ____ Magazine Artist

EDUCATIONAL-VOCATIONAL CHECKLIST - GIRLS

NAME____________________________ CLASS________ SCHOOL____ BORO________ DATE__________

PART A

DIRECTIONS: On this sheet are ten sets of occupations. Each set contains five job titles. For each set check the one job you would most like to do. Place your check on the line in front of the job you choose. Please be sure to check ONE job in each set. When you finish you should have exactly ten checks on this sheet, one for each of the ten sets.

I. 1. ____ Dietician
   2. ____ Nurses' Aid
   3. ____ Doctor
   4. ____ Bookkeeper
   5. ____ Laundry Worker

II. 1. ____ Ticket Seller
   2. ____ Bank Teller
   3. ____ T.V. Actress
   4. ____ File Clerk
   5. ____ Lawyer

III. 1. ____ Librarian
   2. ____ Baby Sitter
   3. ____ Photographer
   4. ____ Milliner (Hat Maker)
   5. ____ X-Ray Operator

IV. 1. ____ Dance Instructor
   2. ____ Teacher
   3. ____ Messenger
   4. ____ Newspaper Reporter
   5. ____ Adding Machine Operator

V. 1. ____ Manicurist
   2. ____ Welfare (Social)Worker
   3. ____ Waitress
   4. ____ Dentist
   5. ____ Policewoman

VI. 1. ____ Telephone Operator
   2. ____ Beautician
   3. ____ Radio Announcer
   4. ____ Elevator Operator
   5. ____ Scientist

VII. 1. ____ Airline Hostess
   2. ____ Story Writer
   3. ____ Usher
   4. ____ Fashion Designer
   5. ____ Supermarket Checker

VIII. 1. ____ Travel Agent
   2. ____ Saleslady in Department Store
   3. ____ Professional Nurse
   4. ____ Fashion Model
   5. ____ Package Wrapper

IX. 1. ____ Hotel Maid
   2. ____ Jewelry Designer
   3. ____ Typist
   4. ____ Guidance Counselor
   5. ____ Stenographer

X. 1. ____ College Professor
   2. ____ Candy Packer
   3. ____ Dress Shop Owner
   4. ____ Cashier
   5. ____ Magazine Artist

EDUCATIONAL-VOCATIONAL CHECKLIST - BOYS AND GIRLS

PART B

DIRECTIONS: Below are three questions. Each question has four possible answers. Read each question carefully and place a check on the line in front of your answer. Select only ONE answer for each question.

XI. Which statement most truly tells how you feel about school?

1. ____ I like to come to school - hate to miss a day.
2. ____ I don't mind it - it's alright.
3. ____ If I have to come I have to - I guess it could be worse.
4. ____ I just don't want to come - I wish I could quit school.

XII. Which course would you like to take in high school? (THIS IS NOT YOUR FINAL CHOICE)

1. ____ Academic (such courses as mathematics, science, foreigh language).
2. ____ Commercial (such courses as typing, bookkeeping, short hand).
3. ____ Vocational (such courses as carpentry, meat cutting, radio mechanics for boys, and dressmaking, cooking and beauty culture for girls).
4. ____ I don't know yet.

XIII. Think of what you would really LIKE to do within the next five years or so. If nothing stood in your way, which of the following would you choose to do?

1. ____ Quit school before finishing high school, and get a job.
2. ____ Finish high school and then get a job.
3. ____ Finish high school, work for a year or two, and then go to college.
4. ____ Finish high school, and then go directly to college.

PART C

DIRECTIONS: Below are two questions. Please answer them on the lines provided.

XIV. For your life work what kind of work would you really like to do? ____________

____

____

XV. What kind of work do you think you really will do? ____________________

____

____

APPENDIX L

Educational-Vocational Checklist
Parent Questionnaire (2)

Parents Questionnaire (Spanish) Boys

Parents Questionnaire (Spanish) Girls

EDUCATIONAL-VOCATIONAL CHECKLIST

PARENT QUESTIONNAIRE

Student's Name____________________________Date__________School________Class__________

Your Name____________________________________Relationship to Student___________________

I. What would you really like your son to do within the next five years or so?
1.____Quit school before finishing high school, and get a job.
2.____Finish high school and then get a job.
3.____Finish high school, work for a year or two, and then go to college.
4.____Finish high school and then go directly to college.

II. What course would you like your son to take in high school?
1.____Academic (including such courses as mathematics, science, foreign language).
2.____Commercial (including such courses as typing, bookkeeping, shorthand).
3.____Vocational (including such courses as carpentry, meat cutting and radio mechanics).
4.____I don't know.

III. Below are ten sets of occupations. Each set contains five job titles. For each set please check the one job you would most like your son to do for his life work. Place a check on the line in front of the job you choose. Please be sure to check ONE job in each set.

I.1.___Detective
2.___Fireman
3.___Doctor
4.___Policeman
5.___Night Watchman

II.1.___Truck Driver
2.___Auto Mechanic
3.___Radio Announcer
4.___Elevator Operator
5.___Guidance Counselor

III.1.___Story Writer
2.___Laborer
3.___Radio, T.V. Repairman
4.___Bulldozer Operator
5.___Airplane Pilot

IV.1.___Clothing Store Owner
2.___Animal Doctor
3.___Bus Boy
4.___Newspaper Reporter
5.___Waiter

V.1.___Package Wrapper
2.___Professional Athlete
3.___Building Superintendent
4.___Dentist
5.___Barber

VI.1.___Ticket Seller
2.___Bank Teller
3.___T.V. Actor
4.___Truck Driver's Helper
5.___Lawyer

VII.1.___Plumber
2.___Teacher
3.___Usher
4.___Welfare (Social) Worker
5.___Bus Driver

VIII.1.___X-Ray Operator
2.___Typist
3.___Scientist
4.___Electrician
5.___Gas Station Attendant

IX.1.___Messenger
2.___Travel Agent
3.___Delivery Man
4.___Druggist
5.___Carpenter

X.1.___Librarian
2.___Garbage Man
3.___Auto Salesman
4.___Mailman
5.___Magazine Artist

EDUCATIONAL-VOCATIONAL CHECKLIST

PARENT QUESTIONNAIRE

Student's Name__________________________ Date________ School_________ Class________

Your Name__________________________ Relationship to Student________________

I. What would you really like your daughter to do within the next five years or so?

1.____Quit school before finishing high school, and get a job.
2.____Finish high school and then get a job.
3.____Finish high school, work for a year or two, and then go to college,
4.____Finish high school and then go directly to college.

II. What course would you like your daughter to take in high school?

1.____Academic (including such courses as mathematics, science, foreign language).
2.____Commercial (including such courses as typing, bookkeeping, shorthand).
3.____Vocational (including such courses as dressmaking, cooking, and beauty culture).
4.____I don't know.

III. Below are ten sets of occupations. Each set contains five job titles. For each set please check the one job you would most like your daughter to do for her life work. Place a check on the line in front of the job you choose. Please be sure to check ONE job in each set.

I.1.___Dietician
2.___Nurses' Aid
3.___Doctor
4.___Bookkeeper
5.___Laundry Worker

II.1.___Ticket Seller
2.___Bank Teller
3.___T.V.Actress
4.___File Clerk
5.___Lawyer

III.1.___Librarian
2.___Baby Sitter
3.___Photographer
4.___Milliner (Hat Maker)
5.___X-Ray Operator

IV.1.___Dance Instructor
2.___Teacher
3.___Messenger
4.___Newspaper Reporter
5.___Adding Machine Operator

V.1.___Manicurist
2.___Welfare (Social) Worker
3.___Waitress
4.___Dentist
5.___Policewoman

VI.1.___Telephone Operator
2.___Beautician
3.___Radio Announcer
4.___Elevator Operator
5.___Scientist

VII.1.___Airline Hostess
2.___Story Writer
3.___Usher
4.___Fashion Designer
5.___Supermarket Checker

VIII.1.___Travel Agent
2.___Saleslady in Department Store
3.___Professional Nurse
4.___Fashion Model
5.___Package Wrapper

IX.1.___Hotel Maid
2.___Jewelry Designer
3.___Typist
4.___Guidance Counselor
5.___Stenographer

X.1.___College Professor
2.___Candy Backer
3.___Dress Shop Owner
4.___Cashier
5.___Magazine Artist

PARENTS QUESTIONNAIRE (SPANISH) BOYS

CUESTIONARIO PARA LOS PADRES

Nombre del Alumno____________________Fecha______Escuela___________Clase_________

Su Nombre______________________________Parentesco con el anumno_______________

I. ¿Qué le gustaría a usted verdaderamente que su hijo hiciera dentro de los próximos cinco años? Favor de marcar su contestación. (✓)

1.____Salirse de la escuela antes de terminar la escuela superior para irse a trabajar.

2.____Terminar la escuela superior y entonces irse a trabajar.

3.____Terminar la escuela superior, trabajar uno o dos años, y entonces ir a la universidad.

4.____Terminar la escuela superior e ingresar en la universidad directamente.

II. ¿Qué curso le gustaría a unsted que su hijo siguiera en la escuela superior? Favor de marcar su contestación. (✓)

1.____Científico (incluyendo cursos tales como las matemáticas, la ciencia, los idiomas extranjeros).

2.____Comercial (incluyendo cursos tales como la mecanografía, la teneduría de libros, la taquigrafía).

3.____Vocacional (incluyendo cursos tales como la carpintería, la carnicería, la mecánica de radio).

4.____No sé.

III. Más abajo encontrará diez series de ocupaciones. Cada grupo contiene cinco clases de empleos. En cada uno de los grupos sírvase indicar el empleo que más le gustaría que su hijo escogiera. Ponga una marquita en el blanco delante del empleo que usted prefiere. Sírvase marcar UN empleo de cada grupo.

I.1.___Detective
2.___Bombero
3.___Médico
4.___Policia
5.___Celador (Watchman)

II.1.___Chófer de Camión
2.___Mecánico de Autos
3.___Anunciador de Radio
4.___Ascensorista
5.___Consejero de Orientación

VI.1.___Vendedor de taquillas
2.___Pagador de banco
3.___Actor de Televisión
4.___Ayudante de Chófer de Camión
5.___Abogado

VII.1.___Plomero
2.___Maestro
3.___Acomodador
4.___Trabajador Social
5.___Chófer de Guaguas

III.1.____Escritor
2.____Jornalero
3.____Reparador de Radios o Televisores
4.____Operador de un Tractor
5.____Piloto de Avión

IV.1.____Dueño de una Tienda de Ropa
2.____Veterinario
3.____Ayudante de Mozo
4.____Periodista
5.____Mozo

V.1.____Empacador de Paquetes
2.____Atleta Profesional
3.____Conserje
4.____Dentista
5.____Barbero

VIII.1.____Operador de Rayos X
2.____Mecanógrafo
3.____Científico
4.____Electricista
5.____Ayudante de Estación de Gasolina

IX.1.____Mensajero
2.____Agente de Viajes
3.____Mozo de Entregas
4.____Farmacéutico
5.____Carpintero

X.1.____Bibliotecario
2.____Basurero
3.____Vendedor de Autos
4.____Cartero
5.____Artista de Revistas

PARENTS QUESTIONNAIRE (SPANISH) GIRLS

CUESTIONARIO PARA LOS PADRES

Nombre de la Alumna________________Fecha________Escuela______Clase__________

Su Nombre__________________________Parentesco con la alumna__________________

I. ¿Qué le gustaría a usted verdaderamente que su hija hiciera dentro de los próximos cinco años? Favor de marcar su contestación. (✓)

1.____Salirse de la escuela antes de terminar la escuela superior para irse a trabajar.

2.____Terminar la escuela superior y entonces irse a trabajar.

3.____Terminar la escuela superior, trabajar uno o dos años, y entonces ir a la universidad.

4.____Terminar la escuela superior e ingresar en la universidad directamente.

II. ¿Qué curso le gustaría a usted que su hija siguiera en la escuela superior? Favor de marcar su contestación. (✓)

1.____Científico (incluyendo cursos tales como las matemáticas, la ciencia, los idiomas extranjeros).

2.____Comercial (incluyendo cursos tales como la mecanografía, la teneduría de libros, la taquigrafía).

3.____Vocacional (incluyendo cursos tales como la costura, el arte de cocina, operadora de salón de belleza).

4.____No sé.

III. Más abajo encontrará diez series de ocupaciones. Cada grupo contiene cinco clases de empleos. En cada uno de los grupos sírvase indicar el empleo que más le gustaría que su hija escogiera. Ponga una marquita en el blanco delante del empleo que usted prefiere. Sírvase marcar UN empleo de cada grupo.

I.1.___Dietista
2.___Ayuda de Enfermera
3.___Doctora
4.___Tenedora de Libros
5.___Trabajadora de Lavandería

II.1.___Vendedora de Taquillas
2.___Pagadora de banco
3.___Actriz de Televisión
4.___Archivista
5.___Abogada

VI.1.___Telefonista
2.___Embellecedora
3.___Anunciadora de Radio
4.___Ascensorista
5.___Científica

VII.1.___Azafata
2.___Escritora
3.___Acomodadora
4.___Diseñadora
5.___Cajera de Supermercado

III.1.___Bibliotecaria
2.___Cuidaniños
3.___Fotógrafa
4.___Sombrerera
5.___Operadora de Rayos X

IV.1.___Maestra de Bailes
2.___Maestra
3.___Mensajera
4.___Periodista
5.___Operadora de Máquina de Computar

V.1.___Manicurista
2.___Trabajadora Social
3.___Moza
4.___Dentista
5.___Policía

VIII.1.___Agente de Viajes
2.___Dependiente
3.___Enfermera
4.___Modelo
5.___Empacadora de Paquetes

IX.1.___Camarera
2.___Diseñadora de Joyas
3.___Mecanógrafa
4.___Consejera de Orientación
5.___Taquigrafa

X.1.___Catedrática
2.___Empacadora de Dulces
3.___Dueña de Tienda de Vestidos
4.___Cajera
5.___Artista de Revistas

APPENDIX M

Evaluation of Higher Horizons Program
Junior High School Principals' Questionnaire

Evaluation of Higher Horizons Program -
Junior High School Principals' Questionnaire

The ultimate objectives of the Higher Horizons Program are no different from those of our school system in general. However, there are specific goals and procedures emphasized in the Higher Horizons Program. We have listed below some of the goals and procedures described by the Higher Horizons coordinator. Please rate each of the following statements in terms of the degree of effectiveness the Program has had in attempting to fulfill these objectives and utilize the procedures. Circle the number which best describes, in your opinion, how effective the Higher Horizons Program has been for most of the children, parents and teachers involved.

0 Adverse Effect   2 Some Positive Effect
1 No Effect   3 Outstanding Positive Effect

0 1 2 3 HH guidance practices identified abilities, interest and needs of children
0 1 2 3 HH guidance practices raised levels of aspiration of the children
0 1 2 3 HH guidance practices stimulated children to attain levels commensurate with their ability
0 1 2 3 The HH guidance program consisted of intensive educational and vocational individual and group counseling sessions
0 1 2 3 The HH Guidance program educated parents in guidance objectives and goals
0 1 2 3 The HH guidance program assisted with in-service training of teachers
0 1 2 3 The HH guidance program developed new tools, techniques, procedures and materials
0 1 2 3 HH teacher training procedures helped teachers identify students with academic ability
0 1 2 3 HH teacher training procedures helped teachers provide methods for helping children realize their academic potential
0 1 2 3 HH teacher training procedures helped teachers set goals for children which are based on potential rather than on past achievement
0 1 2 3 HH teacher training procedures defined the role of the classroom teacher in the Program
0 1 2 3 HH teacher training procedures stimulated teacher participation in the Program
0 1 2 3 Cultural experiences in the HH Program raised childrens' cultural sights
0 1 2 3 Cultural experiences in the HH Program provided opportunities not usually provided by the home or community
0 1 2 3 Cultural experiences in the HH Program raised the aspirations of children and improved their self-image
0 1 2 3 The HH curriculum was enriched in academic and cultural areas
0 1 2 3 The HH curriculum was adapted to utilize existing school facilities, such as libraries
0 1 2 3 Remedial services for children with good academic potential were supplied in reading and also in other areas, in the HH Program
0 1 2 3 The HH Program helped parents understand the value of school in terms of their hopes for their children
0 1 2 3 The HH Program gave parents a better understanding of the community resources and educational opportunities available to them and to their children
0 1 2 3 The HH Program aided parents in providing an atmosphere of encouragement and stimulation for their children
0 1 2 3 The HH Program enlisted the assistance of community agencies in supplying necessary services
0 1 2 3 The HH Program gave to teachers and parents faith in children, and gave to children faith in themselves.

All things considered, are you in favor of the Higher Horizons Program being:

Continued? ______________ Discontinued? ________________ Modified? ________

Please check one of the above and describe your reasons briefly.

How many years have you been in this school either as appointed or acting principal? ____________

APPENDIX N

Evaluation of Higher Horizons Program
Junior High School Teachers' Questionnaire (2)

Evaluation of Higher Horizons Program-
Junior High School Teacher Questionnaire

Below is a list of some of the goals of the Higher Horizons Program and some of the methods and procedures emphasized in reaching these goals. Please rate each statement in terms of the degree of effectiveness you think the Higher Horizons Program has had in attempting to meet these objectives, as compared with non-Higher Horizons programs.

Circle a number (0, 1, 2 or 3) which best describes, in general, your opinion of how effective the Higher Horizons Program has been for most of the teachers, parents and children involved.

RATING SCALE:
0 The HH Program had an ADVERSE EFFECT
1 The HH Program had NO EFFECT
2 The HH Program had SOME POSITIVE EFFECT
3 The HH Program had OUTSTANDING POSITIVE EFFECT

DO YOU THINK THE HIGHER HORIZONS PROGRAM HAS EFFECTIVELY:

0 1 2 3 Improved students' scholastic achievement?
0 1 2 3 Improved students' study habits?
0 1 2 3 Improved students' attitudes to learning?
0 1 2 3 Improved students' classroom behavior?
0 1 2 3 Improved students' relations with their peer group and with their teacher?
0 1 2 3 Improved students' interest in books, art, music, theatre, museums, etc.?
0 1 2 3 Raised students' educational goals to high school graduation?
0 1 2 3 Raised students' educational goals beyond high school completion?
0 1 2 3 Raised students' vocational aspirations?
0 1 2 3 Identified students with academic potential?
0 1 2 3 Identified students with talents other than academic?
0 1 2 3 Improved parents' interest in the school?
0 1 2 3 Increased parents' cooperation with the school?
0 1 2 3 Increased parents' understanding of educational and career opportunities?
0 1 2 3 Raised parents' aspirations for their childrens' education?
0 1 2 3 Raised parents' goals for their childrens' vocational plans?
0 1 2 3 Increased number of parent-teacher interviews?
0 1 2 3 Increased number of parent-counselor interviews?
0 1 2 3 Helped teachers identify potentially able students?
0 1 2 3 Raised teachers' educational goals for these students?
0 1 2 3 Helped teachers in adapting and enriching the curriculum?
0 1 2 3 Provided teachers with additional information about students' background?
0 1 2 3 Provided teachers with additional guidance, remedial & counseling services?
0 1 2 3 Assisted teachers in using cultural activities for curriculum purposes?
0 1 2 3 Aided teachers because the Program was planned and executed cooperatively?

All things considered, are you in favor of the Higher Horizons Program being:

Continued?____________________ Discontinued? ________Modified?____________

Please check one of the above and describe your reasons briefly. (Use back of page if desired.)

Evaluation of Higher Horizons Program -
Junior High School Teacher's Questionnaire

PLEASE GIVE THE INFORMATION REQUESTED BELOW AND RETURN WITH ATTACHED QUESTIONNAIRE
(All data is confidential and will be used for interpretive purposes only.)

1. P. S. __________ Boro __________

2. Were you on duty in this school during the school year:

	YES	NO
1958-59		
1959-60		
1960-61		
1961-62		
1962-63		

3. Do you expect to be on duty in this school during 1963-64?

Yes ______ No _____

4. Did you teach Higher Horizons classes or groups of Higher Horizons students in:

	YES	NO
1959-60		
1960-61		
1961-62		
1962-63		

5. In addition to teaching, did you have any special job relating to the Higher Horizons Program? (Please describe job and grade levels involved for the following years, e.g., part-time counselor, trip coordinator, remedial services, etc.)

1959-60

1960-61

1961-62

1962-63

6. Years total teaching experience: less than 3 yrs. _____; 3-5 yrs. ______;
6-10 yrs. ____; more than 10 yrs. ______.

THANK YOU FOR YOUR COOPERATION!